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# Vegetable Situation

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# THE VEGETABLE SITUATION

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Special Article  
Estimating U.S. Potato Demand  
Structure and Forecasts  
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## SUMMARY

### Higher Vegetable Prices Reflect Smaller Supplies

Smaller U.S. supplies of both fresh and processed vegetables this season point to higher prices for producers and consumers. Supplies of fresh vegetables for 1980 are approximately 10 percent smaller than last year, and processors have used about 11 percent less. Prices paid growers for fresh market vegetables will advance seasonally this fall and average substantially higher than a year ago. From now through the middle of next year, retail prices for processed vegetables will average moderately higher than last season, reflecting tighter supplies, higher processing costs, and increasing demand.

During the third quarter of 1980, the index of farm prices for fresh-market vegetables stood at 210 (1967=100), compared with 188 a year ago. The third quarter index of retail prices for fresh vegetables, at 231, was 9 percent higher than in a year ago. Similarly, the index of wholesale prices for 10 leading canned vegetables registered 211 in September, up 9 percent from a year ago.

Acreage for fall production of 14 major fresh market vegetables is estimated to be 1 percent less than during the fall quarter of 1979. Based on average yields for the past 3 years, production is projected at 45.5 million cwt., 4 percent less than a year ago.

For the fall quarter there will be larger fresh supplies of snap beans, cauliflower, sweet corn, cucumbers, eggplant and escarole-endive. But these will be more than offset by smaller supplies of broccoli, cabbage, carrots, celery, lettuce, green peppers, spinach, and tomatoes. Among the processed vegetables, only canned beets and pickles, and frozen broccoli and spinach will be in larger supply than a year ago.

Wholesale prices of canned vegetables declined slightly last fall and winter, reaching a low in March 1980, that was down 3 percent from a year earlier. In anticipation of smaller packs and supplies, prices began to rise in April, and by this September were 9 percent higher than a year ago.



The supply-price picture is essentially the same for frozen vegetables—supplies will be down during 1980/81 and prices will be substantially higher. Prices for frozen vegetables will be relatively higher than for canned because of higher marketing costs.

With a smaller crop of fall potatoes in prospect—about 12 percent less than in 1979 and well below the 1978 record—grower prices have increased sharply from the low levels of the past two years. Since mid-summer prices have been higher than a year ago, reflecting substantially smaller crops of spring and summer potatoes. Prices to growers for the fall crop potatoes are expected to remain relatively high, possibly between \$4.25-\$4.75 per cwt, up from \$3.24 per cwt., a year ago. The smaller crop will meet with generally good demand in both the fresh and processing markets. Exports of frozen and dehydrated potatoes to Japan and the Pacific Rim countries will

probably hold steady, but sales to the European Community may decline somewhat because sluggish economic activity there is expected to reduce demand for all agricultural imports.

U.S. Consumption of fresh potatoes rebounded in 1979 to 52.8 pounds per person, from 50.5 pounds a year earlier. Annual consumption of processed potatoes declined to 65.5 pounds per person, a drop of about 5 pounds. Consumption of frozen potatoes fell 3.3 pounds, and that of dehydrated potatoes fell nearly 2 pounds per person.

The 1980 crop of dry beans is 17 percent larger than last year, and 27 percent larger than in 1978. Exports are a major influence on prices of dry beans. Even with a larger crop, the strong export demand for pintos and other colored beans is expected to continue, with Mexico the main customer.

## RECENT DEVELOPMENTS AND OUTLOOK

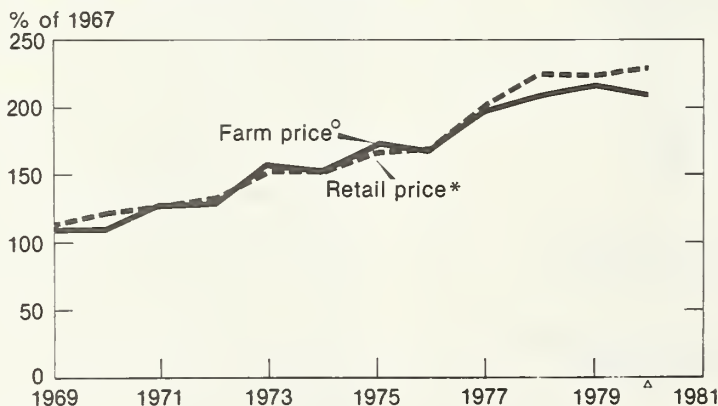
### FRESH VEGETABLES

The 1980 supply of fresh vegetables and melons varied among seasons with increased supplies in the winter quarter and smaller supplies in the spring, summer and fall quarters. The substantially larger winter crop was partially offset by a 15 percent reduction in imports during the January-March period. Smaller supplies in the spring, summer and fall quarters resulted from a reduction in harvested acreage.

Acreage for fall production of 14 major fresh vegetables is estimated to be 1 percent less than in 1979. Based on average yields, projected production of these vegetables is 45.5 million cwt., 4 percent less than last year. Larger production is expected for snapbeans, cauliflower, sweet corn, cucumbers, eggplant and escarole-endive. Smaller production is projected for broccoli, cabbage, carrots, celery, lettuce, green peppers, spinach and tomatoes.

Fresh market vegetable prices to growers during the winter quarter of 1980 were sharply below those

### Fresh Vegetable Price Indexes



△ First 9 months. \* Derived from Bureau of Labor Statistics (excluding potatoes).  
° Commercial vegetables for fresh market, ESS-USDA.

### Fresh vegetable supplies<sup>1</sup>

Supply	1979	1980
	1,000 cwt.	
U.S. winter production- major States. . . . .	34,090	36,689
U.S. spring production- major States. . . . .	62,840	61,573
U.S. spring onions. . . . .	5,944	5,850
Imports (Jan.-June). . . . .	18,953	16,108
Total six months supply . . . . .	121,827	120,220
U.S. summer production- major States. . . . .	68,293	<sup>2</sup> 66,613
U.S. fall production- major States. . . . .	49,111	<sup>2</sup> 46,969
U.S. summer onions <sup>3</sup> . . . . .	22,882	20,337
Imports (July-Dec.) . . . . .	4,210	---
Annual supply. . . . .	266,323	-2.9

<sup>1</sup> Includes melons. <sup>2</sup> Based on historical average yields.

<sup>3</sup> Excludes California.

N.A.—Not available.

during the same period a year earlier and were the lowest in several years. In April, farm prices rose above year earlier levels and have remained above through September. The index of prices received for

fresh market vegetables stood at 210 (1967=100) in the third quarter of 1980, compared with 188 a year earlier.

For the remainder of 1980, grower prices will rise seasonally and continue above year-earlier levels during the fourth quarter. Retail vegetable prices in 1980 followed grower price patterns but were somewhat less volatile. Demand for fresh vegetables was weak during the first quarter but strengthened in the spring and summer. Demand is expected to

### Quarterly index of farm prices for fresh vegetables<sup>1</sup>

Year	(1967=100)				
	1st.	2nd	3rd.	4th.	Annual
1972 . . . . .	134	126	123	133	129
1973 . . . . .	160	193	145	126	156
1974 . . . . .	143	164	144	159	152
1975 . . . . .	168	183	164	177	173
1976 . . . . .	184	158	169	182	173
1977 . . . . .	251	183	165	188	197
1978 . . . . .	202	258	189	189	209
1979 . . . . .	265	207	188	199	215
1980 . . . . .	196	228	210		

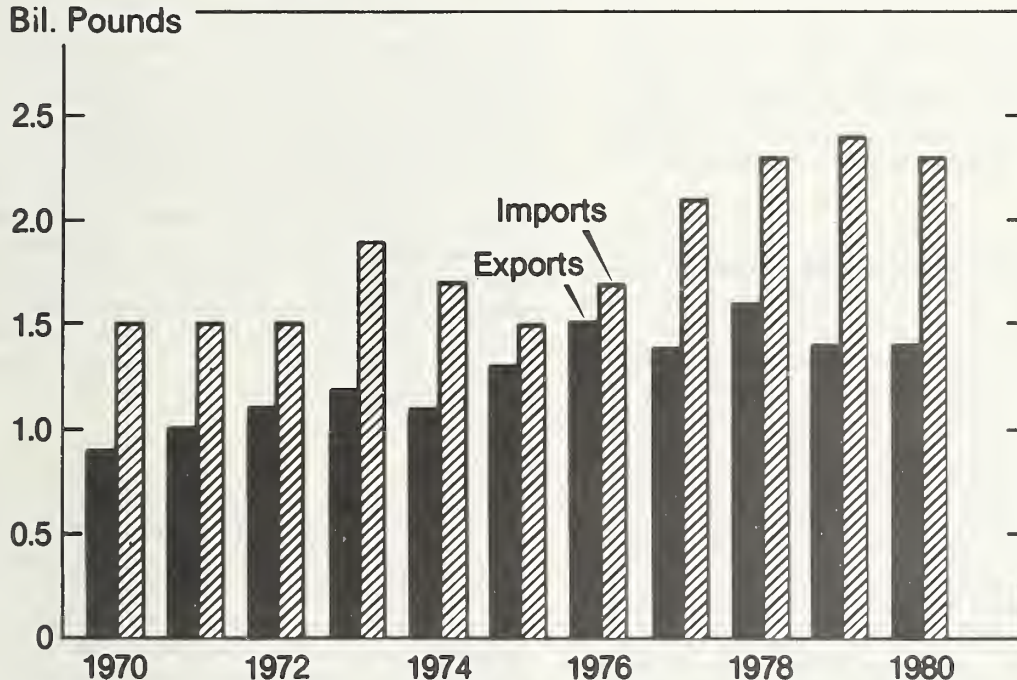
<sup>1</sup> Excludes potatoes.

ESS, USDA.

Source: Ag. Prices.

## Fresh Vegetables-Foreign Trade

Bil. Pounds



Fresh vegetables includes melons. 1980 estimated.

USDA

Neg. ESS 317-80 (10)

Quarterly retail prices for fresh vegetables<sup>1</sup>

Year	(1967=100)				
	1st.	2rn.	3rd.	4th.	Annual
1972 . . . .	137	134	128	133	133
1973 . . . .	151	167	153	138	152
1974 . . . .	150	160	152	151	153
1975 . . . .	168	169	165	160	166
1976 . . . .	170	168	165	179	170
1977 . . . .	221	216	178	184	200
1978 . . . .	212	247	209	204	218
1979 . . . .	254	224	211	226	229
1980 <sup>2</sup> . . .	220	250	231		

<sup>1</sup> Excludes potatoes. <sup>2</sup> Consumer Price Index-All Urban.

USDA estimate derived from Consumer Price Index.

remain strong this fall and winter. The third quarter 1980 ESS index of retail prices, at 230.9 (1967=100) was 9 percent higher than a year earlier.

Fresh vegetable exports have never been large, but in recent years vegetable growers have shown increased interest in foreign markets. Canada will continue to be our major export market.

The major export items among fresh vegetables are lettuce, tomatoes, onions, celery, and carrots. Considerable quantities of melons are also shipped to Canada. In Calendar year 1979, exports of fresh vegetables and melons totaled 1.43 billion pounds, 9 percent below the 1978 record. Lettuce comprised nearly a quarter of the total, tomatoes about 17 percent, and all melons combined accounted for nearly a tenth.

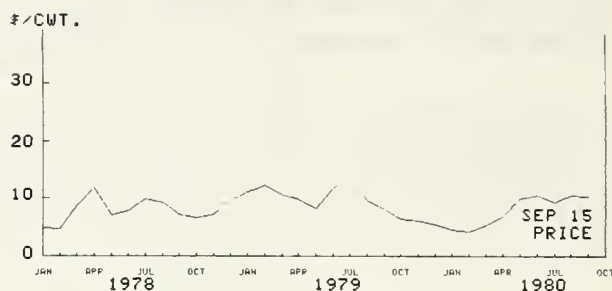
Exports of fresh vegetables in 1980 are expected to continue the general upward trend of recent years. Whether exports will increase for the rest of 1980 and in 1981 depends on total U.S. supplies, domestic prices, the value of the Canadian dollar in relation to the U.S. dollar, and the Canadian and European supply situations.

## Prospects for Leading Items

### Onions

Production of summer storage onions this year is estimated at 17.3 million cwt., 14 percent below the 1979 total. Production of non-storage and storage type onions in summer producing States is estimated at 29.3 million cwt., 10 percent below last year. (This total includes California onions which are used primarily for processing). The decrease in production resulted from a 5 percent decrease in overall harvested acreage and a 5 percent decrease in average yields. For storage onions only Minnesota and Western Oregon showed increases in harvested acreage, while only Minnesota and Ohio showed increases in yields. Idaho and Oregon indicated no increases in yields.

ONIONS: U.S. GROWER PRICES



USDA

NEG. ESS 1057-80 (10)

Dry, hot weather during late summer provided excellent condition for field drying and harvesting of New York's onion crop. However, bulb size and yields were reduced by the weather. The onion crop in Michigan is poor. Reduced yields were caused by waterlogged fields, thin stands and small onions, and much of the crop was deemed unmarketable. The quality of Minnesota's crop is good, with yields above average. Hot weather in Colorado has reduced bulb size in some areas; however, harvesting conditions have been excellent. Idaho and Oregon have had ideal harvesting weather and the onion crop is in good condition in those States.

With smaller supplies, prices for 2 inch and larger yellow onions averaged \$4.20 per 50 pound sack, f.o.b. Orange County, New York, shipping points in late September. This price compares with \$2.60 per sack a year earlier. Yellow Spanish types, 3 inches and larger, f.o.b. Idaho and Oregon, averaged \$6.82 per 5 sack, up from \$2.65 per sack a year earlier. However, prices of white Colorado onions at \$8.25 per sack, were only 6 percent higher than a year ago.

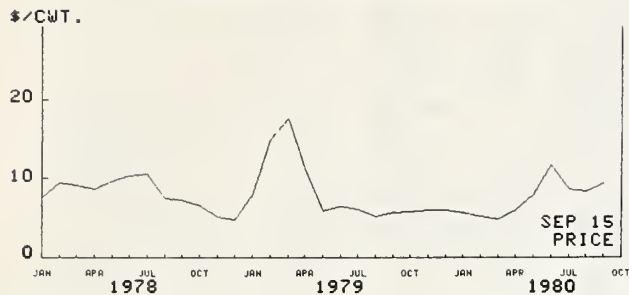
For 1981, Texas spring crop onion growers intend to plant 19,000 acres, the same as in 1980 but 22 percent less than in 1979. In the Rio Grande Valley of Texas, rainfall during September helped alleviate dry conditions. There were some rain delays, but land preparation and planting got into full swing during early October. In the Winter Garden and Laredo areas, conditions remained dry despite showers in September, but plantings were on schedule in October.

### Cabbage

Cabbage acreage for fall harvest is expected to total 21,000 acres, down 12 percent from a year earlier. With average yields this acreage will result in a crop of 5.27 million cwt., 10 percent less than last fall. In New York—the largest volume fall cabbage producer—early cabbage was in good shape and developed normally until the onset of hot, dry weather in August. The unfavorable weather hindered the later stages of development of the early crop and



CABBAGE: U.S. GROWER PRICES



USDA

NEG. ESS 1055-80 (10)

resulted in a poor start for the late crop. Most other States have also had bad weather during their growing season.

Prices for cabbage, f.o.b. shipping points in Western and Central New York mid-October averaged \$3.15 per 1-3/4 bu. crate compared with \$2.39 a year earlier. However, wholesale prices for Long Island cabbage were about \$1.00 per crate higher. With a lighter crop in prospect, prices are expected to rise above current levels and stay above the year-earlier figure.

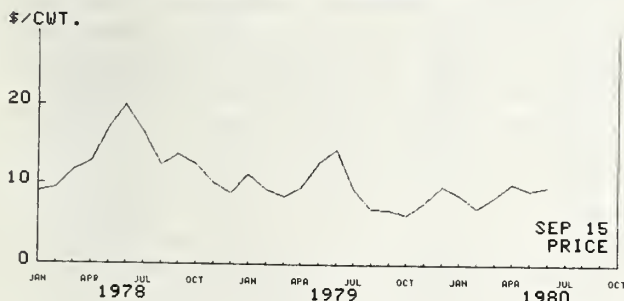
### Celery

Fall acreage in the four principal celery-producing States—California, Florida, Michigan, and New York—is estimated at 8,760 acres, 8 percent below last year. Based on average yields, a crop of 4.42 million cwt. is expected, 7 percent less than in 1979.

Harvesting has been completed in Michigan and New York. Excessive moisture lowered quality and yields, and rotted celery in Michigan. The Florida crop is making good progress. First harvests of celery from Southern California will be marketed in early November.

Shipping point prices of celery have been above those of a year earlier. During the week of September 27, celery was selling for \$5.70 per 2-3 dozen crate, f.o.b. Central Michigan, up from \$4.75 a year

CELERY: U.S. GROWER PRICES



USDA

NEG. ESS 1056-80 (10)

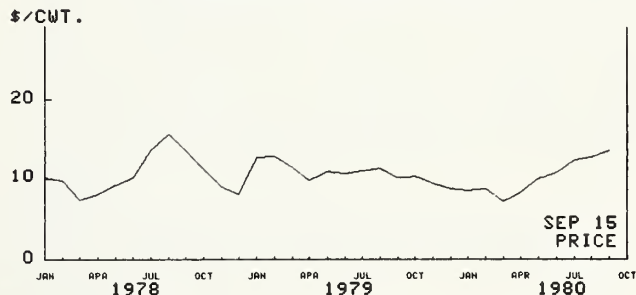
earlier. Prices f.o.b. Salinas-Watsonville, California averaged \$4.15 per crate, compared with \$3.25 in 1979. With a smaller crop in prospect, prices this fall are expected to exceed last year's level.

### Carrots

The acreage of carrots for harvest this fall is estimated at 23,500 acres, 11 percent below the fall 1979 acreage. If yields are average, a crop of 7.26 million cwt. will be produced, 10 percent below last year. Acreage decreases are expected in all major producing States except New York (up 11 percent) and Oregon (up 7 percent).

The New York carrot crop is in good condition. Harvest of the Michigan crop was delayed because of muddy fields, and excessive moisture resulted in larger than normal abandonment. Yields in Washington are expected to be good and crop quality is excellent. California's crop was harvested in the Salinas Valley and the Kern District in October. Carrots were planted in the desert areas in August. Harvest there will begin around the first of December.

CARROTS: U.S. GROWER PRICES



USDA

NEG. ESS 1058-80 (10)

Carrot prices have been above those of last year. During the week of September 27, a 48-pound sack of 1-pound bags averaged \$7.50 f.o.b. Salinas, California, compared with \$6.20 a year earlier. With prospects for a smaller crop, prices will continue firm.

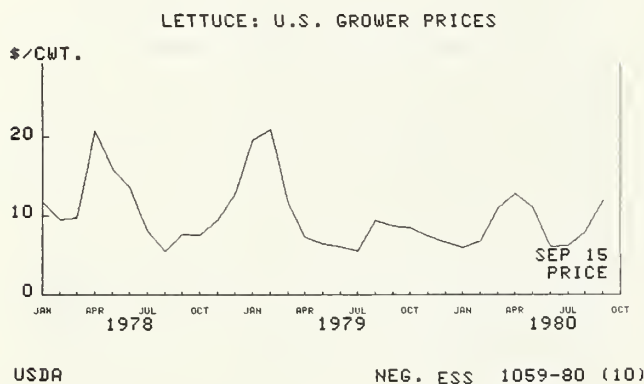
### Sweet Corn

Most of the sweet corn during the fall quarter comes from the Florida Everglades, where 13,400 acres are expected to be harvested this year, 11 percent more than in 1979. California acreage is down, however, so total fall production is up only 9 percent. Based on average yields, the fall crop of sweet corn is expected to total 1.06 million cwt., 18 percent more than last year's production. With a larger Florida crop, consumers in the East will find more sweet corn in the stores this fall. Consumers in the West will find fewer supplies available.

## Lettuce

With both California and Arizona showing a reduction in acreage, the fall 1980 crop, at 62,200 acres will be 3 percent smaller than in 1979. With average yields, production of fall lettuce is estimated to be 14.0 million cwt., 4 percent below last year.

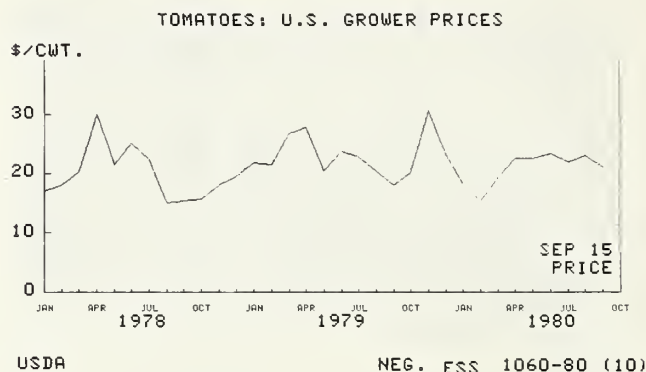
In New Jersey, despite early dry weather, good volume was available through most of October, with marketing completed by early November. In the Florida Everglades, planting was interrupted by frequent rains. Harvest of the fall lettuce crop in Arizona's southeastern area began the last week of September. The crop is in generally good shape, although unusually high temperatures caused some leaf burn on young plants. Central Arizona began harvesting in October and Western Arizona will begin harvesting in November. The California fall harvest began in the Salinas-Watsonville and Santa Maria areas and shifted to the southern and central San Joaquin Valley during the latter part of October. Harvest in the Blythe area will begin in mid-November.



Lettuce prices are extremely volatile and may vary widely from day to day, depending on weather, labor disputes, or the availability of transportation. According to trade sources, a recent 10-day labor strike against a large California lettuce shipper was settled with a new 3-year contract calling for a minimum wage of \$5.85 per hour the first year, followed by raises of 55 cents and 40 cents per hour for the next two years. There was also an increase in the piece rate, allowing workers now to make between \$7 and \$12 per hour, depending on the job classification. In spite of this strike, prices for iceberg-type lettuce at California shipping points have been generally lower than a year ago. For the week ended September 27, prices f.o.b. Salinas Valley, averaged \$4.00 per carton (24 heads) compared with \$6.75 a year earlier. With a slightly smaller crop in prospect, prices should strengthen and rise above their recent low levels.

## Tomatoes

U.S. acreage of fall tomatoes is estimated at 25,100 acres, 4 percent more than in 1979. With average yields, production is expected to be 5.55 million cwt., 4 percent below a year earlier. The Florida crop is in fair to very good condition. A light harvest in the Palmetto-Ruskin area began in late October. Fresh market tomato harvest is active in all producing areas of California. Heaviest movement of the fall crop is expected from the south coastal areas. California and Florida account for more than 95 percent of the U.S. production of fall tomatoes. Small amounts are marketed by Alabama and Texas.



Prices for fall tomatoes will rise seasonally through November and December. With a potentially smaller crop prices may stay above last year's level. For the week ended September 27, two layer flats (4X5-5X6's), f.o.b. Southern California shipping points were at \$6.90, compared with \$4.20 a year earlier.

## PROCESSED VEGETABLES

### Smaller Supplies of Processed Vegetables

The area contracted for production of seven major processing vegetable crops in 1980 is estimated at 1.3 million acres, down 12 percent from 1979. Raw tonnage production under contract is expected to approximate 9.8 million tons, about 15 percent less than was produced last year. Production declines are expected for green lima beans, snap beans, beets, sweet corn, green peas, winter spinach, and tomatoes. Only spring spinach shows an increase. Highlighting this season are substantial decreases in contracted tonnage for green lima beans, down 31 percent; beets down 20 percent; tomatoes, down 16 percent; and sweet corn, down 10 percent. Contracted acreage for cabbage for kraut, cucumbers for pickles, and fall spinach will be reported later.

The carryover of leading canned vegetables at the



# Canned vegetable supplies and disappearances,<sup>1</sup>

Year	Pack and carryover	Disappearance
<i>Million cases 24/303's</i>		
1976/77 . . . . .	387	327
1977/78 . . . . .	390	337
1978/79 . . . . .	390	336
1979/80 . . . . .	413	335
1980/81 . . . . .	<sup>2</sup> 387	---

<sup>1</sup> 10 items combined which account for roughly 50-55 percent of raw product tonnage. <sup>2</sup> Projected-based on Sept./Oct. ESS raw tonnage estimates.

Source: Processed Veg. Supplies long sheet.

beginning of the New pack year was nearly one-fifth larger than last year. Stocks of frozen vegetables on October 1, at 1.7 billion pounds, were 12 percent below year-earlier levels. The data on contracted acreage are not categorized for canning or freezing, but the current stocks positions indicate both outlets will have about the same percentage decreases. Most of the decrease in canned tonnage will come from snap beans, beets, and green peas. Stocks of green peas are heavy because of a large carryover from last season. With smaller packs more than offsetting larger carryover stocks, supplies of both canned and frozen vegetables will be down about 6 percent from a year ago. Smaller supplies, combined with higher processing and marketing costs, will spur higher wholesale prices for both canned and frozen vegetables for the remainder of 1980 and through the first half of 1981.

Higher raw product costs and increased processing and marketing costs will boost both the wholesale and retail prices. Some of these costs have risen substantially during the past year. For example, the index of packaging materials costs was 262.7 (1967=100) in August 1980, up 13.4 percent from August 1979. During a comparable period, the index of prices for fuel and power rose 31.5 percent. Labor costs are up 10.5 percent in 1980 and the monthly

index of transportation costs in August stood at 306.1 (1967=100), 22.5 percent above a year earlier.

Much of the decrease in processing vegetable tonnage is coming from California tomatoes, which do not compete directly with other fresh and processed vegetables. However, there are smaller crops of nearly all of the other processing vegetables, which are often substituted for each other depending on relative prices. For example, the relatively large supplies of green beans this year will tend to moderate price rises for corn, peas, and other canned vegetables.

The total supply (pack plus carryover) of canned vegetables for 1980/81 will probably be about 6 percent smaller than last season's large volume. This drop is resulting from the smaller packs of the major vegetable items, since carryover stocks of all items combined were estimated to be nearly a fifth larger than a year earlier.

Despite inflation wholesale prices of canned vegetables remained at or below year earlier levels through the first half of 1980 but then began to increase in July when the smaller 1980 pack became apparent. In September, the index of prices for 10 leading vegetables stood at 211.1 (1967=100), up 9 percent from a year earlier. With smaller supplies and few promotional allowances, wholesale prices will be moderately higher this fall and winter than a year earlier. Smaller supplies of both canned and frozen vegetables plus increased processing and marketing costs will also keep retail prices moderately above those of last year. Stocks of frozen vegetables on October 1 stood at 1.7 billion pounds, 12 percent less than in 1979.

## Prospects for Leading Items

### Peas

The volume of peas available for canning and freezing this year is estimated at 474,820 tons, and the combined pack of canned and frozen peas is substantially smaller than last year. However, total supplies of processed green peas will still be adequate because of a large carryover from 1979's record-large packs. Thus, while total supplies of canned green peas are 9 percent smaller than in 1979, supplies are still expected to be 17 percent larger than during the 1978/79 season. Despite ample supplies, prices for canned green peas edged upward in October and deals and promotional allowances were terminated in mid-month.

The 1980 pack of frozen peas is estimated at about 350 million pounds, down a fifth from last year's large pack of more than 442 million pounds. Stocks on hand on October 1 totaled 328.2 million pounds, down 16 percent from a year ago. With adequate supplies, prices are expected to remain at current

## Frozen vegetables stocks, October 1

Commodity	1978	1979	1980
<i>Mil. lbs.</i>			
Lima beans. . . . .	91.3	119.4	102.4
Snap beans. . . . .	211.5	231.1	235.3
Sweet corn <sup>1</sup> . . . . .	488.2	479.3	361.8
Green peas <sup>2</sup> . . . . .	335.5	389.9	328.2
Spinach. . . . .	61.0	80.6	69.3
Broccoli . . . . .	94.6	89.4	105.1
Carrots <sup>2</sup> . . . . .	78.0	79.8	79.4
All frozen (excluding potatoes). . . . .	1,360.1	1,469.5	1,281.5

<sup>1</sup> Sweet corn on-cob not converted to cut equivalent. <sup>2</sup> Peas and carrots mixed not included.

Canned green peas: Supply and disappearance

	1978/79	1979/80	1980/81
	<i>Mil. cases 24/303's</i>	<i>Mil. cases 24/303's</i>	<i>Mil. cases 24/303's</i>
Carryover . . . . .	4.4	1.6	6.2
Pack . . . . .	25.3	36.5	—
Total supply . . . .	29.7	38.1	—
Disappearance . . . .	28.1	31.9	—

levels with minor upward price adjustments to cover increased marketing costs.

### Lima Beans

Lima bean tonnage for canning and freezing is estimated at 57,390 tons, 31 percent below the 1979 level. A sharp drop in contracted tonnage in California accounts for most of the decrease, but nearly all States reported declines.

Most of the lima bean tonnage in California will be frozen. Carryover stocks of both fordhook and baby lima beans were at high levels this year for the second year in a row, so the expected pack totals will be sharply smaller than in both 1978 and 1979. Total supplies of frozen lima beans will be near 145 million pounds, about 14 percent smaller than a year earlier. These smaller supplies will boost prices above year-earlier levels during the coming months.

The carryover of canned lima beans on August 1 was nearly 600,000 cases, a fifth larger than the previous year. With both yields and acreage down this year, the total pack will be down sharply and total supplies will be down a fourth from a year ago. These short supplies plus increased costs, will boost prices well above year-earlier levels throughout the fourth quarter of 1980 and the first half of 1981.

### Snap Beans

The estimated 1980 tonnage of snap beans for canning and freezing, at 656,340 tons, is 9 percent smaller than a year earlier. The carryover of canned green beans, at 9.1 million cases (24-303's), however, is larger than during either of the past 2 years. The 1980 pack is expected to total about 60 million cases, bringing the total supply to nearly 70 million cases, down slightly from 1979's large total but well above 1978 supply. Prices are expected to remain near year-earlier levels, with some price concessions along the way. Snap beans, along with canned peas and sweet corn, are volume leaders among canned vegetables and are often used as price leaders by retailers.

Stocks of frozen green beans totaled nearly 236 million pounds on October 1, substantially more than a year ago. With total supplies of green beans expected to be down only slightly from last year's large supplies, prices will probably remain near those

Canned snap beans: Supply and disappearance

	1978/79	1979/80	1980/81
	<i>Mil. cases 24/303's</i>	<i>Mil. cases 24/303's</i>	<i>Mil. cases 24/303's</i>
Carryover . . . . .	5.0	6.2	9.1
Pack . . . . .	57.1	66.3	—
Total supply . . . .	62.1	72.5	—
Disappearance . . . .	55.9	63.4	—

of last year. During September, prices for regular and french cut green beans averaged \$6.70-\$6.80 per case (24-9 oz.), the same as last year. Institutional packs, at 42 cents per pound, were also the same as a year earlier.

The 1980 pack of frozen green beans has been completed. The Pacific Northwest and California accounted for 52 percent of the total pack, the Midwest freezers 10 percent, and the East and South 38 percent.

### Sweet Corn

Processing volume of 2.19 million tons is 10 percent smaller than a year ago. Most of the processing States reported declines in production; only Maryland, Minnesota, Pennsylvania and other minor producing States showed slight increases. Idaho, Oregon, and Washington, which do most of the freezing of corn are showing declines.

With a sizable but not burdensome carryover of canned corn, and the smallest pack since 1974, total supplies will be approximately 10 percent smaller than a year ago. Smaller supplies and higher processing costs mean higher prices this marketing season. Increased prices will keep total disappearance below last year's record of 60.2 million cases (24 303's), but next season's carryout should be in the 5-7 million case range and contracted acreage will likely be increased next spring.

The combined carryover of cut and on-cob frozen corn was nearly a fourth smaller in 1980 than last year. Stocks on October 1 totaled nearly 362 million pounds, 25 percent smaller than a year ago. With reduced carryover stocks and a smaller pack, prices for frozen corn are expected to rise substantially above the low levels of last year. In September, prices for institutional packs, at 37 cents per pound, f.o.b., the West Coast, were 20 percent higher than last year.

In late September, the USDA announced it rejected all offers to sell frozen corn, since only 41,800 cases were offered, while bids for 248,600 cases were solicited. During fiscal year 1980 (ending September 30, 1980) the USDA purchased 7,722 million pounds of frozen corn for use in school lunch and institutional food programs.



Canned sweet corn: Supply and disappearance

	1978/79	1979/80	1980/81
	<i>Mil. cases 24/303's</i>	<i>Mil. cases 24/303's</i>	<i>Mil. cases 24/303's</i>
Carryover . . . . .	7.6	9.8	9.6
Pack . . . . .	57.9	60.0	—
Total supply . . . .	65.5	69.8	—
Disappearance . . .	55.7	60.2	—

## Tomatoes

Substantial reductions in tomato acreage, particularly in California, and reduced yields in some other processing States are responsible for a substantial reduction in tomato tonnage this year. California is still expected to produce about 88 percent of the processing tomatoes. Contracted tonnage in other States was also down from year-earlier levels, and these decreases were amplified by hot, dry conditions in eastern producing areas. As a result, contracted tonnage was off 25 percent in Maryland, 35 percent in New Jersey, and 56 percent in Virginia. In Indiana and Ohio—California's two major competitors—tonnage was off 2 and 18 percent, respectively.

Deliveries of tomatoes to canners in California totaled approximately 5.4 million tons for the season to October 4, down from with 6.2 million tons last year. The trade is now looking for a final tonnage of 5.6 million tons in California compared with a total of 6.3 million tons a year ago.

Light deliveries combined with a relatively light carryover from the 1979 crop, portend tight supplies and higher prices for canned tomatoes and tomato products this marketing season. As early as August, California Standard Grade peeled tomatoes were wholesaling at \$9.25 per case (6/10's), up from \$7.50 in August 1979.

These prices will alleviate some of the troubles the U.S. tomato canning industry has experienced during the past 2 years of heavy supplies. In August of 1978 the Canners League of California petitioned the International Trade Commission (ITC) to recommend the imposition of countervailing duties on the imports of tomato products from the European Community (EC). On May 29, 1980, the ITC found that "the industry in the U.S. is not materially injured or threatened with injury and the establishment of an industry in the United States is not materially retarded, by reason of subsidized imports of tomato products from Belgium, Denmark, the Federal Republic of Germany, France, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom."

The Commission's public report discloses that there are approximately 200 tomato processors in the United States, mainly located in California, Indiana, Ohio, New Jersey, Pennsylvania, and Virginia. These processors employed more than 8,000 people in 1979.

Canned tomatoes: Supply and disappearance

	1978/79	1979/80	1980/81
	<i>Mil. cases 24/303's</i>		
Carryover . . . . .	16.0	14.6	12.3
Pack . . . . .	49.2	52.9	—
Total supply . . . . .	65.2	67.5	—
Disappearance . . . .	50.6	55.2	—

Canned tomato juice: Supply and disappearance

	1978/79	1979/80	1980/81
	<i>mil. cases 24/303's</i>		
Carryover . . . . .	5.5	6.2	6.4
Pack . . . . .	33.9	31.5	—
Total supply . . . . .	39.4	37.7	—
Disappearance . . . .	33.2	31.3	—

The value of producers' shipments in 1979 was more than \$700 million and apparent U.S. consumption was valued at more than \$725 million. The value of imports from all countries was \$21.8 million and from EC countries \$6.1 million—99 percent from Italy. Imports of tomato concentrates and canned tomatoes from the EC countries represented 1.1 percent of total U.S. consumption in 1979.

## Other Processed Vegetables

Contracted acreage for canning beets totaled 14,310 acres and 198,600 tons in 1980, down substantially from both 1978 and 1979. The smaller pack from this tonnage will be offset by a record large carryover of 6.7 million cases (24/303's), yielding a record supply of about 17 million cases in the 1980/81 marketing year. Prices are expected to remain near year earlier levels throughout the marketing season.

The tonnage of cabbage for sauerkraut is expected to be slightly larger than in 1979. This, combined with an average carryover, will yield about 14 million cases, the usual U.S. annual supply.

Frozen broccoli stocks on October 1 totaled 105 million pounds, nearly 18 percent more than in 1979. However, continued strong demand for frozen broccoli is expected to keep prices moderately higher than a year ago. Stocks of frozen cauliflower—a close substitute for broccoli—were down 31 percent on October 1 but the processing season was just getting started. Stocks of frozen brussel sprouts on October 1, at 23 million pounds, were 23 percent larger than a year ago. Volume production was underway in October in California, where freezers were expecting production to be about 10 percent less than last year. Prices for nearly all frozen vegetables are expected to be moderately higher than a year ago because of higher processing and marketing costs.

## Potatoes

### Marketing the 1979 Crop

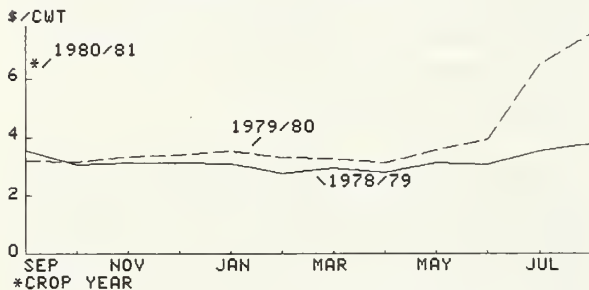
The 1979 potato crop totaled 343 million cwt., only 6 percent less than the record 1978 crop and 3 percent below 1977. Acreage was down moderately in 1979, but average yields, at 269 cwt. per acre, were the highest on record and partially offset the smaller acreage. As a result, the average price in 1979 rose to \$3.43 per cwt., up from \$3.38 a year earlier, and the total value of the nation's crop in 1979 fell 4 percent, to \$1.17 billion, down from \$1.22 billion in 1978.

The smaller crop in 1979 alleviated most of the surplus problems in major producing regions, except in Maine, where unusually high yields offset a smaller acreage and prices were depressed. The USDA rejected initial requests of Maine potato growers for a diversion program since it was not needed on a

national basis. However, on April 11, 1980 the USDA offered to buy \$30 million worth of processed potato products nationally for donation to charitable institutions and domestic food programs. And, in May, the USDA agreed to make payments of \$2.25 per cwt for diversion of up to 500,000 cwt. of Maine potatoes to livestock and starch outlets. A total of 507,186 cwt. were actually diverted. These purchases and diversions were consummated promptly and were of benefit to growers in Maine as well as in other production areas. A more important factor in boosting potato prices were small spring and summer crops which caused prices to rise in April this year and remain high throughout the summer.

Despite the large 1979 fall crop, 1979/80 exports of fresh potatoes declined slightly because Canada also had a large crop, particularly in the eastern provinces where they competed directly with Maine potatoes in East Coast markets. However, U.S. exports of processed potatoes continued to increase. Exports of dehydrated potatoes during the

POTATOES: U.S. GROWER PRICES \*



USDA

NEG. ESS 3073-80 (10)

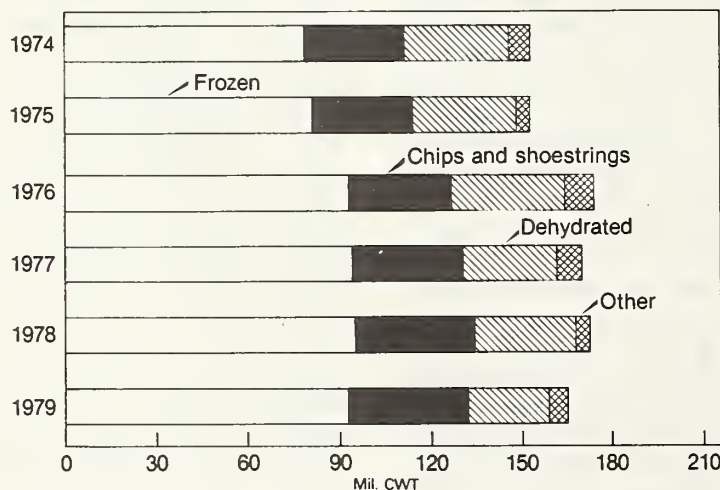
Potato exports<sup>1</sup>

Crop year Oct.-Sept.	Dehy- drated	Fresh	Total	Percent of crop
<i>Mil. cwt.</i>				
1974/75 . . . .	1.7	4.0	5.7	2%
1975/76 . . . .	10.6	10.6	21.2	6%
1976/77 . . . .	15.7	10.3	26.0	7%
1977/78 . . . .	6.6	3.4	10.1	3%
1978/79 . . . .	8.1	2.9	11.0	3%
1979/80* . . .	8.5	1.9	10.4	4%

<sup>1</sup> Fresh weight basis. <sup>2</sup> Oct. thru. Sept.

\*Oct.—Aug.

### Processed Potato Use



USDA

Neg. ESS 2235-80 (10)



October 1-August 31 period totaled to 8.5 million cwt. (fresh weight equivalent basis), up from 8.1 million cwt. a year earlier. Exports of frozen french fries, mostly to Japan, were running 19 percent larger than the previous season, while shipments to Japan were up 31 percent.

Exports of frozen and dehydrated potatoes are expected to remain strong because of the growing institutional and fast food markets in Japan and other Pacific Rim countries. The increasing trade with China may further enhance the export potential of potato products in the months ahead.

### 1980 Potato Prospects

The 1980 fall crop is estimated at 261 million cwt., 12 percent less than in 1979 and 19 percent smaller than the record 1978 crop. This is the smallest crop since 1973. The area for harvest is estimated at 977,000 acres, 9 percent less than last year and 15 percent smaller than in 1978. Yields in 1980 are expected to average 267 cwt. per acre, 4 percent less than last year and 5 percent below 1978.

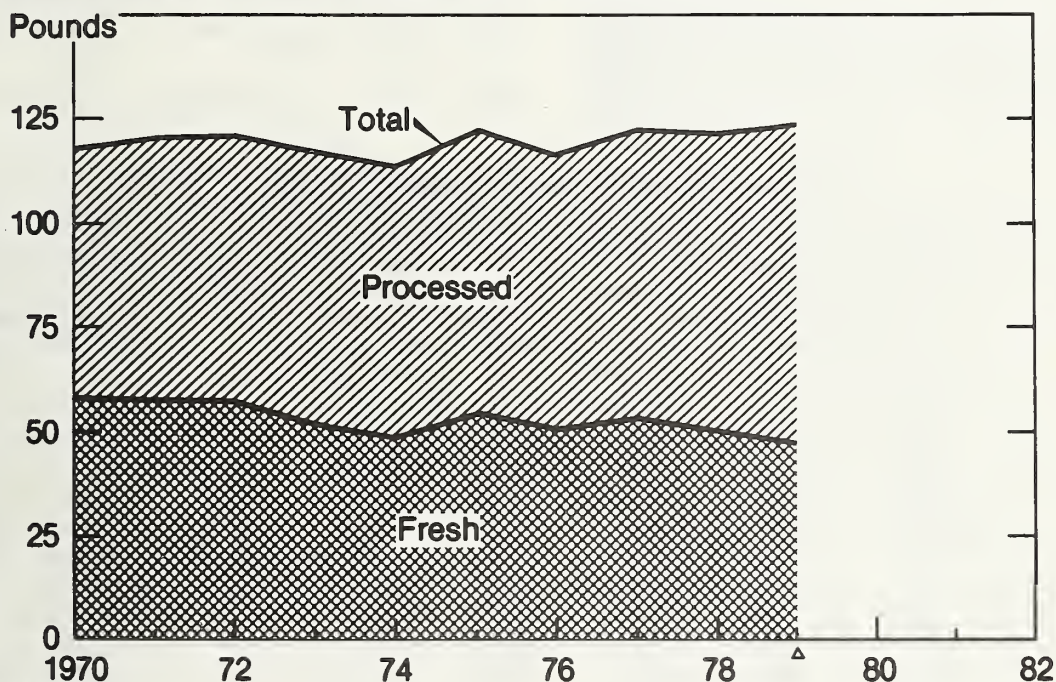
In the seven Eastern fall States, production is forecast at 41.4 million cwt., down 15 percent from a year earlier because both acreage and yields are

lower. Yield, at 232 cwt. per acre, is down 9 percent, and acreage, at 178,000 acres, is down 7 percent from 1979. Cold, wet weather has delayed harvest in Maine where only 40 percent of the crop had been harvested by October 1, compared with 75 percent last year. A mid-October freeze caused serious, but undertermined, damage to the Maine crop. Harvest in both Upstate New York and on Long Island was running ahead of last year, but yields were sharply lower. Dry weather reduced yields in Pennsylvania where yields are estimated to be 70 cwt. per acre less than a year ago.

In the eight Central States production is estimated at 53.5 million cwt., down 14 percent from 1979 and 23 percent below 1978. The estimated yield of 191 cwt. is down 11 percent from last year, while harvested acreage is down 5 percent. Yields are down in all States except Wisconsin and Nebraska. Yields are particularly low in the Red River Valley of North Dakota and Minnesota where rainfall during July and early August was well below normal. Harvest was late in North Dakota, with only 45 percent of the crop in by October 1, but Minnesota and Wisconsin harvests were on schedule.

Production in the Western States, at 166 million cwt., is 11 percent below 1979 and 20 percent below

## Per Capita Consumption of Potatoes



△ Preliminary.

USDA

Neg. ESS 67-80 (10)

1978. The average yield, at 319 cwt., is about the same as last year, but acreage for harvest, at 519,000 acres, is down 11 percent. In Idaho about 20 percent of the crop was harvested by October 1—a normal pace for that area and in Washington harvest was about 35 percent complete, the same as last year. The quality of the crop is generally good, and, in Washington, industry sources are expecting record-large yields, attributed to ash from Mt. St. Helens which blanketed the potato producing area with a nutritious, moisture-conserving cover during much of the growing season.

### Price Prospects

With the total fall crop down 12 percent from last year's high level, grower prices will increase and could average in the range of \$4.25-\$4.75 per cwt., up from \$3.24 per cwt. for the 1979 fall crop. With generally good quality in all areas, grower prices might edge even higher during the first quarter of 1981. Processors anticipate continued growth in exports of processed potatoes—particularly frozen french fries—to Japan. On October 1, stocks of frozen french fries totaled 518 million pounds, 5 percent less than a year earlier. With strong demand in both the fresh and processing markets, prices to potato growers will average sharply higher than during the past 3 years.

### Per Capita Use Up

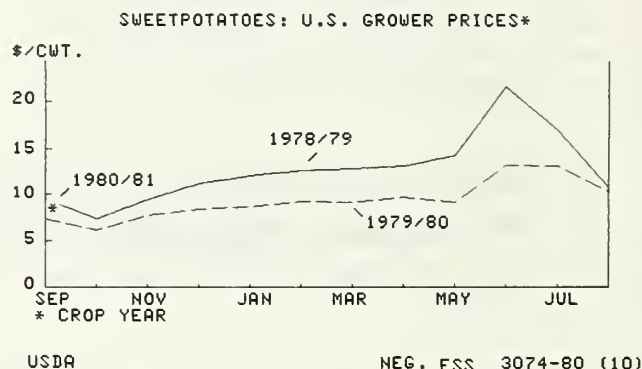
Consumption of potatoes in 1979 remained at 118.3 pounds per person as the use of fresh potatoes rebounded to 52.8 pounds and the use of processed declined more than 5 pounds per person. In 1979,

consumption of dehydrated potatoes dropped nearly 2 pounds to 9.7 pounds per person. Consumption of frozen potatoes dipped to 36.2 pounds, down from 39.5 pounds a year earlier. Canned chips and shoestrings remained at the year earlier levels of 2.2 and 17.4 pounds per person, respectively.

## Sweetpotatoes

The 1980 sweetpotato crop is forecast at 12.0 million cwt., down 17 percent from 1979 and down 16 percent from 1978. This production is the lowest since 1971. Harvested acreage is expected to total 113,200 acres, 9 percent below 1979 and 6 percent less than 1978. Estimated yield at 106 cwt. per acre is down 8 percent from 1979, and 11 percent below 1978.

Dry weather during the growing season greatly reduced yields in 10 of the 13 major producing States. Production is down in all States and the size



Production and per capita consumption of potatoes, 1965-79

Year	Production	Total fresh and processed	Fresh	Per capita consumption				
				Total	Processed <sup>1</sup>			
					Canned <sup>2</sup>	Frozen	Chips and shoestrings	Dehyd- rated
	Million cwt.			Pounds				
1965	291.1	107.0	68.2	38.8	1.7	14.3	15.8	7.0
1966	307.2	116.8	72.4	44.4	1.7	17.3	16.7	8.7
1967	305.8	108.0	62.0	46.0	1.7	19.0	16.9	8.4
1968	295.4	115.2	65.9	49.3	1.9	21.2	17.1	9.1
1969	312.6	116.9	61.7	55.2	2.0	24.6	17.7	10.9
1970	325.7	117.5	58.3	59.2	2.0	27.7	17.7	11.8
1971	319.3	118.7	56.8	61.9	2.2	30.3	17.3	12.1
1972	296.4	119.4	57.4	62.0	2.1	30.6	17.0	12.3
1973	300.0	116.8	51.9	64.9	2.3	33.2	16.6	12.8
1974	342.4	114.3	48.4	65.9	2.3	33.0	16.1	14.5
1975	322.3	122.1	55.0	67.1	2.0	34.7	15.9	14.5
1976	357.7	116.1	51.0	65.1	2.0	36.9	16.1	10.1
1977	354.6	121.7	54.4	69.3	2.3	37.1	16.7	11.2
1978	365.2	121.1	50.5	70.6	2.3	39.5	17.3	11.5
1979 <sup>3</sup>	343.0	118.3	52.8	65.5	2.2	36.2	17.4	9.7

<sup>1</sup> Fresh-weight basis. <sup>2</sup> Includes potatoes canned in soups, stews, and other combinations. <sup>3</sup> Preliminary.



Pack of canned sweetpotatoes

Season	Million cases 24/303's
1972/73 .....	9.5
1973/74 .....	11.4
1974/75 .....	12.8
1975/76 .....	7.7
1976/77 .....	8.0
1977/78 .....	7.2
1978/79 .....	9.4
1979/80 .....	9.2

and quality of this year's crop is generally below average. Extremely dry conditions caused considerable cracking, which lowered quality, especially in the Southern areas.

With canners' carryover stocks at record high levels, there is little incentive to pack heavily. However, grower prices in the processing market have been up. Canner stocks totaled 2.7 million cases on July 1, 1980 up 26 percent from a year earlier. Nevertheless, because of a greatly reduced crop in prospect, canners have been paying North Carolina growers \$2.25 to \$2.50 per 50 pounds delivered, up from \$1.50 a year earlier.

Higher prices also prevailed in the fresh market. In early October quotations for 50-pound cartons of U.S. No. 1 Porto Rico sweetpotatoes, f.o.b. Louisiana shipping points, averaged \$8.50 per carton compared with \$5.90 a year earlier. Prices usually advance seasonally, but these advances are expected to be more pronounced during the 1980/81 season than they have been in previous seasons because of the much smaller crop.

## Mushrooms

Mushroom production in the United States reached a new high during the 1979/80 season, 470 million pounds, 4 percent more than the previous season. Pennsylvania, the leading State, with 45 percent of the 1979/80 crop, grew 214 million pounds, virtually the same as a year ago. The U.S. average yield of 3.12 pounds per square foot is 1 percent more than in 1978/79 and the highest since annual data have been published. These higher yields are indicative of the new technologies that have been introduced into the industry in recent years as large conglomerates have been attracted to the production of this increasingly popular item.

Fresh market sales of mushrooms, at 255.7 million pounds, were up 11 percent from the 1978/79 season, and accounted for 54 percent of total U.S. production. The average price received by growers for fresh market mushrooms reached 95.9 cents per pound, an increase of a penny over the year-earlier level.

While fresh market sales continued the long-term upward trend, the total volume processed dipped to

Mushrooms: Production, use, and value

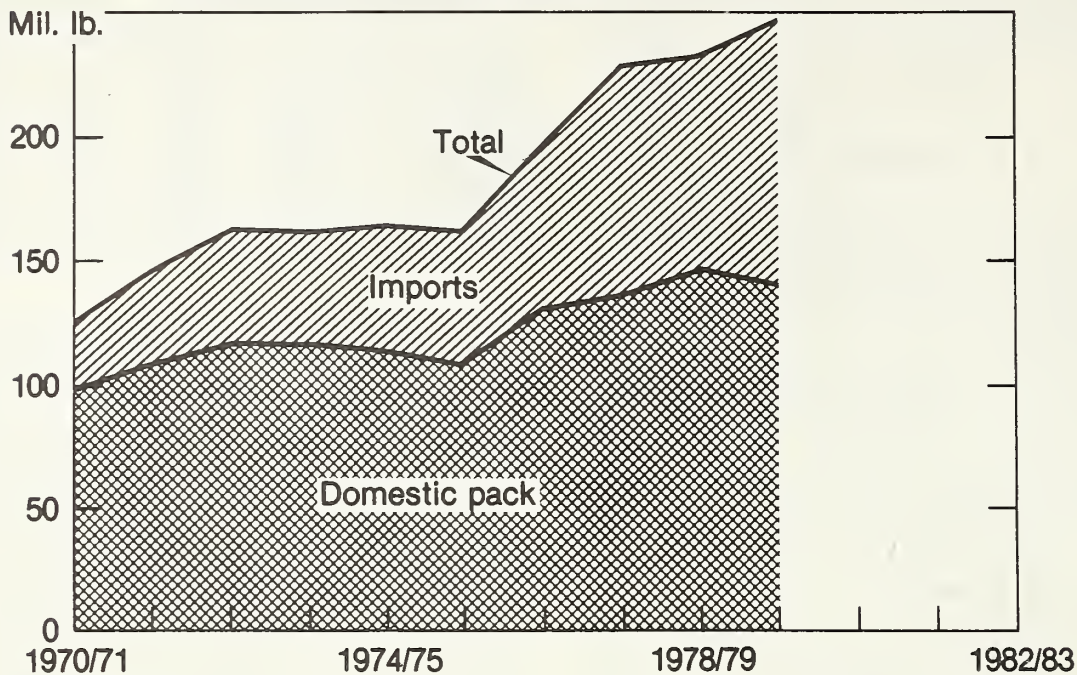
Season	Output	Processing use	Fresh market	Farm value
	Million pounds			Mn \$
1972/73 .....	254	177	77	110.0
1973/74 .....	279	177	102	123.4
1974/75 .....	299	173	126	147.2
1975/76 .....	310	168	142	191.1
1976/77 .....	347	196	151	255.7
1977/78 .....	399	208	191	307.6
1978/79 .....	454	224	229	361.8
1979/80 .....	470	214	256	368.5

214.3 million pounds and processing's share of the market dropped to 46 percent. The average price to growers of processing mushrooms dropped to 57.6 cents per pound, a decline of 6.6 cents from the 1978/79 season. This drop in price was an indication that the position of U.S. mushroom canners was weakening and triggered the American Mushroom Institute to petition the U.S. International Trade Commission (ITC) for relief from imported mushrooms. The ITC conducted an investigation, and on August 14 determined that mushrooms, prepared and preserved, are being imported into the United States "in such quantities as to be a substantial cause of serious injury, or a threat thereof, to the domestic industry producing an article like or directly competitive with the imported article."

A majority of the Commissioners recommended to the President that..."it is necessary to impose quantitative restrictions on U.S. imports of mushrooms, prepared or preserved, provided for in item 144.20 of the TSUS, for a 3-year period commencing in July 1, 1980. Such quantitative restrictions should be established at 86,000,000 pounds (drained weight) for the first year, to be increased by 9.7 percent in each subsequent year." On October 17 the President determined that the duty on imports of mushrooms, prepared or preserved, provided for in item 144.20 of the TSUS be raised after October 31, 1980 from 13.3 percent to 33 percent for the first year, then dropped to 28 percent for the second year, and further dropped to 23 percent for the third year. After that the duty is expected to return to 3.2 cents per pound plus 10 percent ad valorem. Quantitative restrictions were not imposed. The higher tariffs for 3 years should enable the domestic industry to make necessary adjustments to become more competitive.

During the course of its investigations, the ITC noted that during July 1979-March 1980 period approximately 106 million pounds (product drained weight) of mushroom were canned in the U.S. Meanwhile, imports of canned mushrooms surged to 116 million pounds. The ratio of canned imports to domestic canned production stood at 109. This compares with 38 during the 1970/71 season and 85 in 1975/76.

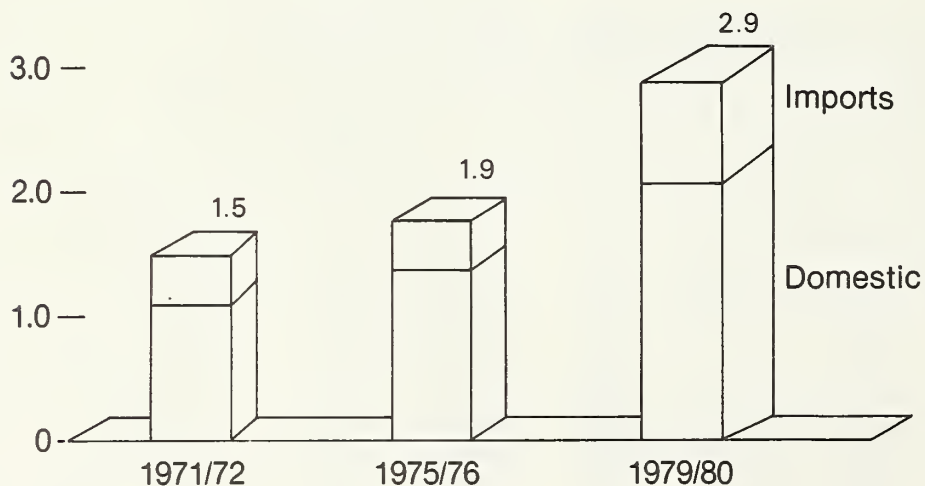
## Processed Mushroom Supplies\*



\*Product weight.

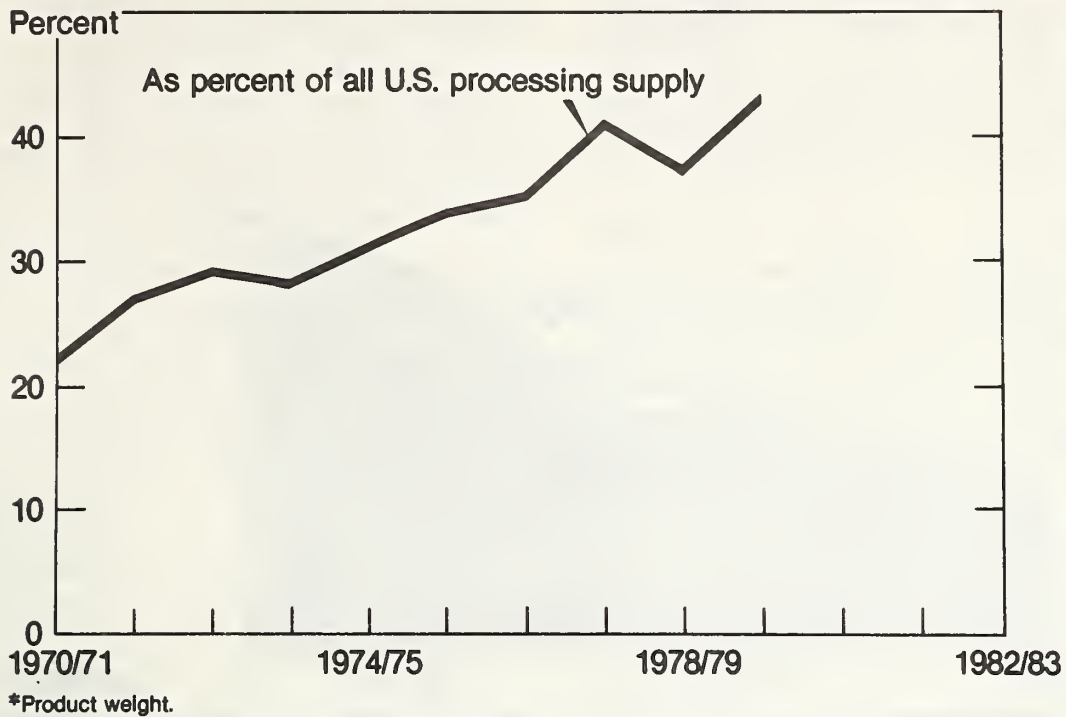
## Mushroom Disappearance Per Capita\*-United States

Pounds

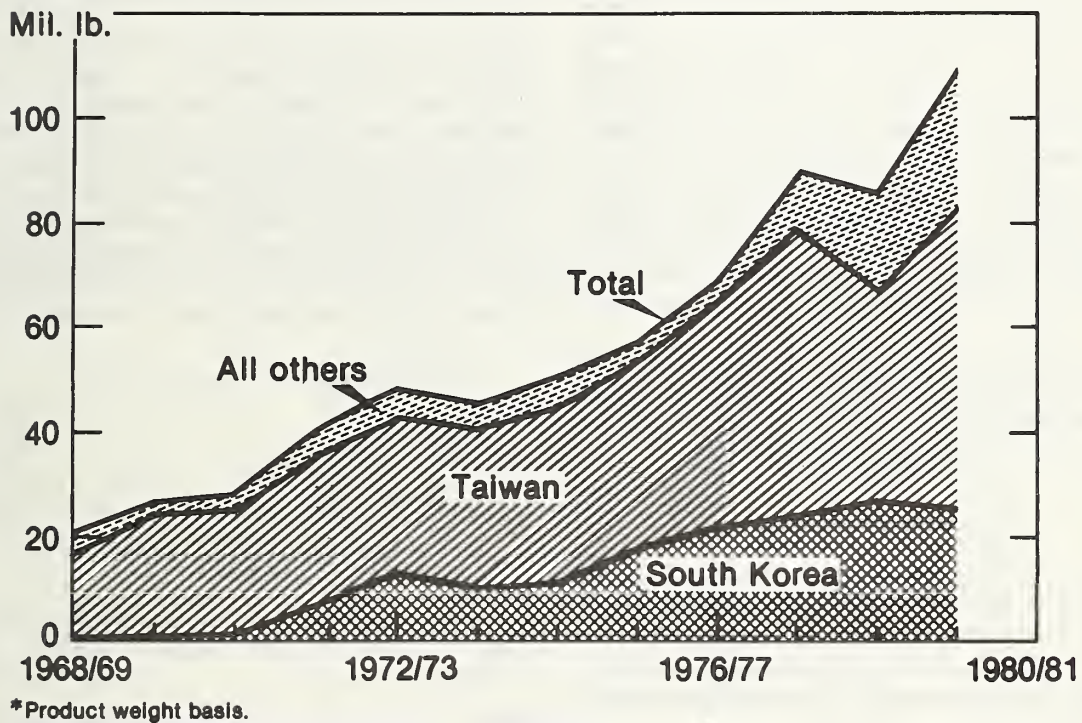


\*Fresh weight basis.

## Canned Mushroom Imports\*

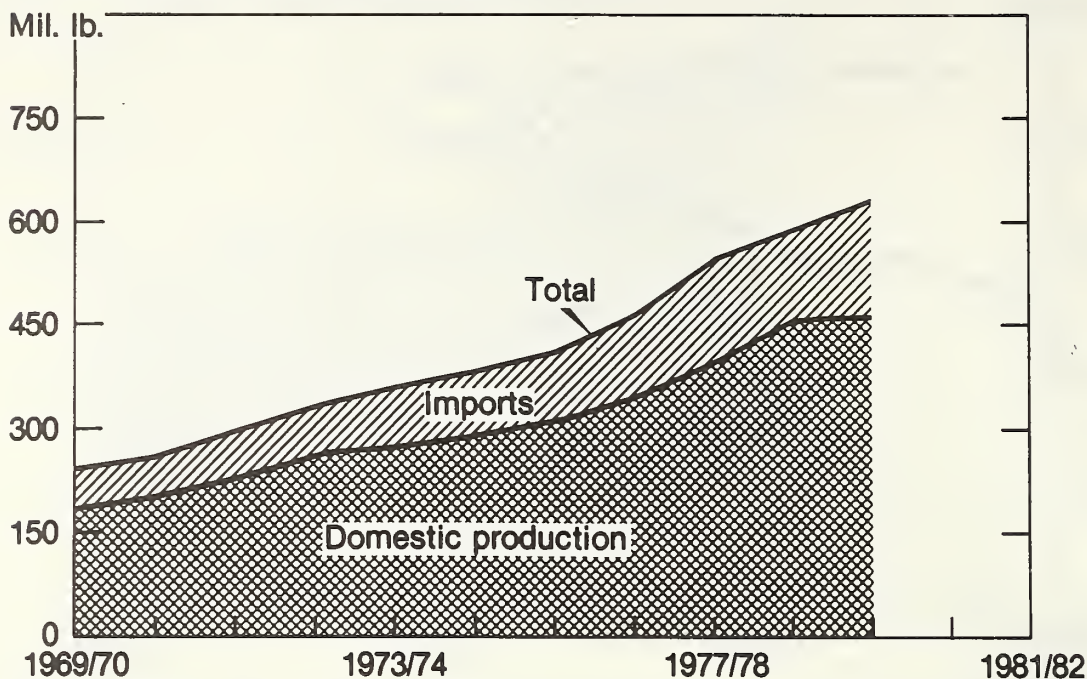


## Canned Mushroom Imports to USA\*





## Total Mushroom Supplies\*



\*Fresh equivalent basis.

USDA

Neg. ESS 2561-80 (10)

Per capita use of all mushrooms advanced to 2.9 pounds in 1979/80 (raw equivalent basis), up from 2.7 pounds a year earlier, continuing the steady upward trend in mushroom consumption. Of total consumption, an estimated 1.2 pounds were fresh and 1.7 pounds were processed. Of the processed mushrooms, about half were imported.

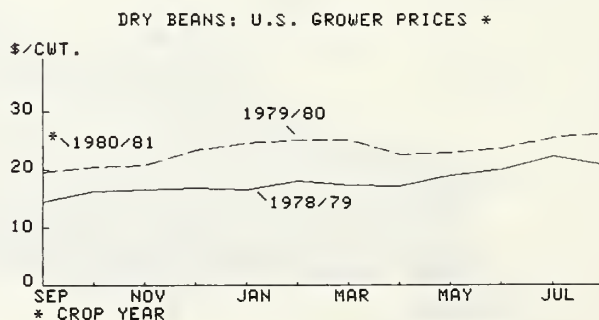
Major suppliers of processed mushrooms to the United States are Taiwan, which accounts for 62.3 percent of the total, and South Korea with 27.5 percent. Industry sources believe China may become a large supplier of mushrooms to the U.S. in the years ahead.

The prospects for mushrooms for the 1980's will definitely be impacted by the President's decision on mushroom imports but growth in overall demand for mushrooms will also be an important factor.

## Dry Edible Beans

Dry bean production in 1980 is estimated at a record 24.2 million cwt., 17 percent more than last year. The estimated acreage for harvest is 1.79 acres, 26 percent above last year. Average yield was 1,353 pounds per acre, 104 pounds less than last year's 1,457 pounds per acre.

Dry weather in Michigan during September aided harvesting. Harvest in New York progressed well in October, but wet weather delayed harvest in North Dakota. The Nebraska harvest was largely completed by the end of September with quality of the beans excellent. Both Wyoming and Washington had ideal harvesting conditions. The Colorado harvest reached its peak at the end of September but was running two weeks behind schedule. Harvesting is underway in major producing areas of California with good conditions prevailing. Idaho harvest was 2-3 weeks late because rain slowed the drying of windrowed beans.



USDA

NEG. ESS 3075-80 (10)



Average prices received by growers reached their low point in April 1980 at \$22.60 per cwt. Between April and August, grower prices rose again reaching a high of \$26.30 per cwt. in August. However, grower prices in September dropped to \$24.50, \$5 per cwt. above a year earlier. Even though the 1980 crop is 17 percent larger than a year earlier a large portion of the pintos and colored beans, were contracted by the government of Mexico. Grower prices are expected to be buoyed by strong demand for pintos and other colored beans but may be under pressure by uncertain demand for the white bean classes.

Among the major classes, dealer prices for Michigan pea beans have shown an almost continuous upward trend since early May when prices rose from a low of \$20.50 per cwt. to a high of \$28.25 at the end of August and again in the last half of September. Dealer prices dropped to \$27.50 per cwt. during the first week of October, and prices may be expected to decline further if the export market develops slowly.

Dealer prices for Great Northern beans were mostly in the \$26 to \$27.75 per cwt. range from January through June 1980. During early July prices rose to \$29.00 per cwt. and then to \$30.50 per cwt. Since mid-July, dealers prices have remained in the \$32 to \$33 per cwt. range. A possible Algerian tender for Great Northerns may have lent strength to prices. Should export markets fail to develop or develop slowly, prices of Great Northerns can be expected to drop from the current high levels.

Pinto bean prices fluctuated in the \$34.00 to \$35.75 per cwt. range during the first quarter of

1980. During April and May price fluctuated in the \$30.25 to \$33.50 range while in June and July prices were in the \$33.00 to \$35.00 range, dropping again in August to the \$30.25 to \$31.50 range. In September prices fluctuated in the \$31.25 to \$34.50 range. With some 250,000 metric tons from the 1980 crop contracted by the government of Mexico and indications of strong world demand, prices are expected to remain at or near their current high levels.

## Exports Up

Exports of dry edible beans for the September 1979-August 1980 period were 332,889 metric tons, 34 percent above a year earlier. Of the white classes, exports of Navy beans increased 11 percent, Great Northerns increased 4 percent, and other white beans rose 8 percent. Pinto exports (largely to Mexico) and Red Kidney exports were more than double a year earlier.

## Dry Edible Peas

Production of dry edible peas is expected to total 2.79 million cwt. in 1980, up 37 percent from 1979 but down 22 percent from 1978. Acreage for harvest is estimated at 131,000 acres, down 4 percent from 1979 and 35 percent below 1978. Average yields for the 2-State area of Washington and Idaho are expected to be 2,131 pounds per acre, up 632 pounds from last year. Many farmers in Northern Idaho and eastern Washington reported the best yields ever.

Table 1—Harvested acreage and production of commercial vegetables for processing

Commodity	Harvested			Production			
	1978	1979 <sup>1</sup>	For harvest <sup>1</sup> 1980	1978	1979 <sup>1</sup>	Indicated 1980 <sup>1</sup>	1980 as percentage of 1979
	<i>1,000 acres</i>			<i>1,000 tons</i>		<i>Percent</i>	
Beans, lima. . . . .	68.1	64.0	48.5	82.7	83.2	57.4	69
Beans, snap . . . . .	280.4	261.1	237.5	716.6	720.6	656.3	91
Beets . . . . .	17.3	17.0	14.3	221.6	247.0	198.6	80
Corn, sweet . . . . .	429.6	415.8	393.0	2,434.7	2,442.7	2,190.3	90
Peas, green . . . . .	355.5	389.3	330.7	461.1	607.4	474.8	78
Spinach (winter and spring) . . .	17.4	17.9	18.2	119.8	135.0	144.2	107
Tomatoes . . . . .	295.6	305.6	256.1	6,367.7	7,242.3	6,070.2	84
Total with production <sup>2</sup> . . . .	1,463.9	1,470.7	1,298.3	10,404.2	11,478.1	9,791.8	85
Cabbage for Kraut . . . . .	10.6	8.5	N.A.	217.8	209.2	226.1	108
Cucumber for pickles. . . . .	134.4	113.1	N.A.	685.5	584.4	N.A.	N.A.
Spinach (fall) . . . . .	2.6	2.7	N.A.	15.3	18.7	N.A.	N.A.
Total 9 vegetables <sup>2</sup> . . . . .	1,611.4	1,595.0	N.A.	11,322.6	12,290.4	N.A.	N.A.

<sup>1</sup> Contract. <sup>2</sup> May not add to total due to rounding. N.A.—Not available.

Current prices reflect the impact of a larger supply. September grower prices averaged \$8.40 per cwt., compared with \$10.60 a year earlier.

According to the American Dry Pea and Lentil Association, domestic use of dry peas during 1979/80 (September-August) dropped to 69.8 million pounds from 73.3 million pounds a year earlier. Lentil use dropped to 20.8 million pounds from 23.6 million in 1978/79. Exports of dry peas during the totaled 192.2 million pounds, compared with 206.3 million a year earlier. However, lentil exports rose to 102.5 million pounds from 88.7 million in 1978/79.

The export demand for lentils continues strong and exports will likely be at least at last year's levels. The export market of dry peas is slow. With a large crop to be marketed, grower prices are expected to fall below a year earlier.

Table 2—Fall potatoes: Production by areas, United States

Year	8 Eastern States	8 Central States	8 <sup>3</sup> Western States	Fall total <sup>1</sup>
<i>Million cwt.</i>				
1973 . . . . .	49	57	148	254
1974 . . . . .	60	66	163	289
1975 . . . . .	48	55	175	278
1976 . . . . .	51	58	199	307
1977 . . . . .	50	68	189	307
1978 . . . . .	49	69	207	323
1979 . . . . .	49	62	186	297
1980 <sup>2</sup> . . . . .	41	54	166	261

<sup>1</sup> May not add to total due to rounding. <sup>2</sup> Indicated as of October 1. <sup>3</sup> Nine states beginning 1974.

Data from Crop Production, ESS, USDA, annual and monthly reports.

Table 3—Sweetpotatoes: Production by areas, United States

Area	1974	1975	1976	1977	1978	1979	1980 <sup>2</sup>
<i>1,000 cwt.</i>							
Central Atlantic <sup>3</sup> . . . . .	1,527	1,523	1,456	1,200	1,364	1,295	921
Lower Atlantic <sup>4</sup> . . . . .	4,633	5,135	5,213	5,159	6,092	5,890	5,265
Central <sup>5</sup> . . . . .	6,073	5,545	5,585	4,866	5,453	5,573	4,346
California . . . . .	1,106	1,022	1,178	1,170	1,392	1,632	1,440
Total . . . . .	13,339	13,225	13,432	12,395	14,301	14,390	11,972

<sup>1</sup> Preliminary. <sup>2</sup> Indicated. <sup>3</sup> New Jersey, Maryland and Virginia. <sup>4</sup> North Carolina, South Carolina, and Georgia. <sup>5</sup> Tennessee, Alabama, Mississippi, Arkansas, Louisiana, and Texas.

Data from Crop Production, ESS, USDA, annual and monthly reports.

Table 4—Dry edible beans: Production by areas, United States<sup>1</sup>

Year	Michigan	New York	Northwest <sup>2</sup>	Southwest <sup>3</sup>	California	Other <sup>4</sup>	U.S. Total <sup>5</sup>
<i>Million cwt.</i>							
1974 . . . . .	6.9	.5	7.1	1.7	4.0	.1	20.3
1975 . . . . .	4.7	.5	7.4	2.0	2.6	.2	17.4
1976 . . . . .	5.4	.4	7.2	1.9	2.8	.1	17.8
1977 . . . . .	5.7	.4	6.2	1.4	2.9	.1	16.6
1978 . . . . .	6.2	.4	7.3	1.7	3.3	---	18.9
1979 . . . . .	6.9	.5	8.0	1.8	3.5	---	20.7
1980 <sup>6</sup> . . . . .	7.3	.6	10.5	2.2	3.5	---	24.1

<sup>1</sup> Cleaned basis. <sup>2</sup> Minnesota, North Dakota, Nebraska, Montana, Idaho, Wyoming, and Washington. <sup>3</sup> Kansas, Colorado, Utah. Beginning 1973 New Mexico discontinued. <sup>4</sup> Discontinued beginning 1978. <sup>5</sup> May not add to total due to rounding. <sup>6</sup> Indicated.

Data from Crop Production, ESS, USDA, annual and monthly reports.

Table 5—Vegetables and melons for fresh market: Commercial acreage and production of principal crops, selected seasons, 1978, 1979, and indicated 1980.

Seasonal group and crop	Acreage for harvest				Production			
	1978	1979	1980		1978	1979	1980	
			Indi- cated	percent- age of 1979 <sup>4</sup>			Indi- cated <sup>1</sup>	Percent- age of 1979 <sup>4</sup>
	1,000 acres		Percent		1,000 cwt.		Percent	
Winter . . . . .	182.2	180.1	190.8	106	33.5	34.1	36.7	108
Spring . . . . .	377.7	379.8	354.8	93	61.2	62.8	61.6	98
Summer . . . . .	556.0	497.1	489.4	98	75.4	68.3	66.6	98
Fall: <sup>2</sup>								
Beans, snap . . . . .	20.0	20.0	22.2	111	.7	.6	.8	119
Broccoli <sup>3</sup> . . . . .	20.2	20.5	21.5	105	1.7	1.8	1.8	98
Cabbage <sup>3</sup> . . . . .	24.4	23.7	21.0	88	6.1	5.9	5.3	90
Cantaloups . . . . .	6.8	7.9	7.6	96	.8	.9	.9	95
Carrots <sup>3</sup> . . . . .	26.1	26.5	23.5	89	8.1	8.1	7.3	90
Cauliflower <sup>3</sup> . . . . .	19.5	15.3	16.3	107	1.8	1.6	1.7	108
Celery <sup>3</sup> . . . . .	9.8	9.6	8.8	92	5.1	4.7	4.4	93
Corn, sweet . . . . .	14.4	13.1	14.3	109	1.0	.9	1.1	118
Cucumbers . . . . .	16.2	13.8	15.1	109	1.8	1.5	1.6	104
Eggplant . . . . .	1.1	1.0	1.1	110	.2	.2	.2	112
Escarole . . . . .	1.7	1.7	1.7	105	.2	.2	.2	113
Honeydew melons . . . . .	2.1	2.4	2.6	108	.4	.5	.6	106
Lettuce . . . . .	64.0	64.2	62.2	97	13.7	14.6	14.0	96
Peppers, green <sup>3</sup> . . . . .	14.4	14.1	12.7	90	1.6	1.5	1.4	95
Spinach . . . . .	2.6	4.1	3.3	81	.2	.3	.2	90
Tomatoes . . . . .	24.7	24.2	25.1	104	5.3	5.7	5.5	96
Total fall to date <sup>4</sup> . . . . .	267.9	261.9	259.0	99	48.7	49.1	47.0	96
Total acreage and production reported to date <sup>4</sup> . . . . .	1,383.8	1,318.9	1,293.9	98	218.9	214.3	210.6	98

<sup>1</sup> Based on average yield per acre. <sup>2</sup> October, November, and December. <sup>3</sup> Includes fresh market and processing. <sup>4</sup> Based on unrounded data.

Vegetables-Fresh Market, ESS, USDA, Issued monthly.

Table 6—Vegetables, fresh: Representative prices (wholesale lots) at New York and Chicago for stock of generally good quality and condition (U.S. No. 1 when available), indicated periods 1979 and 1980

Market and commodity	State of origin	Unit	Tuesday			
			1979		1980	
			Sept. 11	Oct. 16	Sept. 9	Oct. 14
			Dollars			
New York						
Broccoli . . . . .	California	14's, crt.	9.50	10.50	11.00	8.75
Cabbage, domestic round type. . . . .	New York	Various crates	3.75	3.50	6.50	4.62
Cantaloups. . . . .	California	Jumbo crt. 36's	8.50	8.00	13.50	9.50
Carrots, topped . . . . .		48 1-lb. flm				
washed. . . . .	California	bag, ctn.	8.00	7.75	9.50	10.25
Cauliflower . . . . .	Long Island	Crt. 12's	9.50	11.50	10.00	7.75
Celery, Pascal . . . . .	New York	2-3 doz.	5.50	---	7.75	---
Celery, Pascal . . . . .	California	2-3 doz.	7.50	8.00	10.50	8.50
Corn, sweet . . . . .	New York	5 doz. crate	5.00	---	4.25	---
Cucumbers. . . . .	Virginia	Bu. bskt.	---	13.50	---	10.50
Lettuce, Iceberg. . . . .	California	2 doz. cnt.	8.75	8.50	13.00	9.25
Onions, yellow Spanish large . . . . .	Idaho—Oregon	50 lb. sack	6.15	5.50	7.25	7.50
Onions, yellow globe medium . . . . .	New York	50 lb. sack	4.25	3.25	5.00	5.25
Spinach, savory . . . . .	New Jersey	Bu. bskt	---	---	---	---
Chicago						
Beans, snap green round green . . . . .	Illinois	Bu. hamper	9.00	12.00	10.00	---
Broccoli . . . . .	California	14's crt.	8.25	8.25	7.50	7.50
Cabbage, domestic round type. . . . .	Illinois	Various crates	3.50	---	5.25	4.75
Cantaloups. . . . .	California	Jumbo crt., 36's	7.25	8.50	12.00	7.75
Cauliflower . . . . .		Ctns., flm				
flower . . . . .	California	wrpd., 12's	9.00	10.00	10.00	8.25
Celery, Pascal . . . . .	California	2-4 doz.	7.25	7.75	10.00	9.00
Cucumbers. . . . .	Illinois	Bu. bskt.	5.00	---	8.50	---
Green Peppers . . . . .	Illinois	Bu. bskt., lge.	4.75	---	---	---
Honeydews . . . . .	California	Crts., 5-8's	6.50	5.50	5.50	5.50
Lettuce, Iceberg. . . . .	California	2 doz. cnt.	7.25	8.63	11.00	7.00
Onions, yellow Spanish large . . . . .	Idaho—California	50 lb. sack	5.75	5.25	7.25	7.00
Onions, yellow globe medium . . . . .	Midwestern	50 lb. sack	5.25	4.00	6.50	6.00
Tomatoes, green, ripens and turning, med-lge.	California	2 lyr. Lug	5.75	5.75	12.00	8.00

Weekly Summary of Terminal Market Prices, AMS, USDA.

Market News Reports.



**Table 7—Vegetables, commercial for fresh market: Index numbers (unadjusted) of prices received by farmers, United States by months, 1965 to date<sup>1</sup>**

Period	Jan.	Feb.	Mar.	Apr.	may	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	(1967=100)												
1965 . . . . .	78	83	97	107	127	103	84	77	78	87	89	87	91
1966 . . . . .	110	115	101	108	94	99	115	102	91	92	101	95	102
1967 . . . . .	100	94	96	110	104	128	109	84	80	88	101	104	100
1968 . . . . .	119	117	125	129	105	98	92	86	92	91	113	118	107
1969 . . . . .	104	109	113	110	118	97	97	94	90	111	151	130	110
1970 . . . . .	130	123	123	109	121	110	101	96	111	95	102	95	110
1971 . . . . .	111	116	149	135	126	127	119	101	99	121	172	138	126
1972 . . . . .	155	131	115	134	122	123	116	125	129	112	147	139	129
1973 . . . . .	155	154	170	200	190	190	179	131	125	122	127	129	156
1974 . . . . .	136	162	131	151	170	171	151	140	140	163	167	146	152
1975 . . . . .	169	169	166	177	169	204	178	157	159	159	174	189	173
1976 . . . . .	195	178	180	186	132	155	169	160	177	190	186	171	173
1977 . . . . .	237	253	263	219	182	150	169	160	166	180	212	175	197
1978 . . . . .	197	199	210	287	245	242	213	171	183	174	179	213	209
1979 . . . . .	259	287	249	213	204	204	188	194	182	191	209	196	215
1980 <sup>2</sup> . . . . .	190	184	214	238	231	216	197	208	224				

<sup>1</sup> All prices reported of f.o.b. basis. <sup>2</sup> Preliminary.

Table 8—Canned vegetables: Commercial packs 1978 and 1979 and canners' and wholesale distributors' stocks 1979 and 1980 by commodities, United States

Commodity	Packs		Stocks					
	1978	1979	Canners			Wholesale distributors <sup>1</sup>		
			Date	1979	1980	Date	1979	1980
	1,000 cases 24/303's							
Major commodities								
Beans, snap . . . . .	57,121	66,281	July 1	6,235	11,293	July 1	3,610	4,081
Beets . . . . .	12,834	14,990	July 1	2,907	6,672	July 1	973	998
Corn, sweet . . . . .	57,907	60,022	July 1	9,778	9,597	July 1	4,130	4,434
Peas, green . . . . .	25,269	36,492	June 1	1,592	6,247	June 1	2,702	2,765
Sauerkraut . . . . .	11,761	12,890	Aug. 1	2,160	2448	July 1	646	587
Total . . . . .	164,892	190,675		22,672	36,257		12,061	10,865
Tomato items								
Tomatoes . . . . .	49,241	52,724	July 1	14,618	12,313	July 1	4,433	2,990
Tomato juice . . . . .	33,920	31,517	July 1	6,241	6,391	July 1	1,874	1,089
Total . . . . .	83,161	84,241		20,859	18,704		6,307	4,079
Other commodities								
Asparagus . . . . .	3,382	2,819	Mar. 1	919	1,025	Apr. 1	431	332
Beans, lima . . . . .	3,356	3,061	Aug. 1	525	580	July 1	—	—
Field peas . . . . .	2,364	2,542		—	—		—	—
Carrots . . . . .	6,609	6,250	July 1	2,131	3,779	July 1	690	555
Okra <sup>3</sup> . . . . .	444	436		—	—		—	—
Pickles . . . . .	76,770	75,367		—	—		—	—
Pimlentos . . . . .	376	516		—	—		—	—
Pumpkin and squash . . . . .	3,353	3,997	July 1	942	920	July 1	274	587
Potatoes . . . . .	17,386	16,451		—	—		—	—
Sweetpotatoes. . . . .	9,436	9,174		—	—		—	—
Spinach . . . . .	6,214	8,121	Mar. 1	1,362	3,120	Apr. 1	609	563
Other greens. . . . .	2,880	3,195		—	—		—	—
Total comparable other items . . . . .	132,570	131,929		5,879	9,424		2,004	2,037
Grand total comparable items. . .	380,623	406,845		49,410	64,385		20,372	16,981

<sup>1</sup> Converted from actual cases to standard cases of 24 No. 303 cans. <sup>2</sup> Includes combination vegetable juices containing at least 70 percent tomato juice. <sup>3</sup> Okra, okra and tomatoes, and okra, corn, and tomatoes. N.A.—not available.

Canners' stock and pack data from the National Food Processors Association pickles and sauerkraut pack ESS derived, sauerkraut stocks National Kraut Packers Assoc. derived. Wholesale distributors' stock from the Bureau of Census.

**Table 9—Vegetables, frozen: United States commercial packs 1978 and 1979, and cold storage holdings, October 1 with comparisons**

Commodity	Packs		Oct. 1 1978	Cold storage holdings	
	1978	1979		Oct. 1 1979	Oct. 1 1980 <sup>1</sup>
	Million pound				
Asparagus . . . . .	15	24	10	16	11
Beans, lima:					
Fordhook . . . . .	38	41	31	46	48
Baby . . . . .	81	83	61	72	54
Total . . . . .	119	124	92	118	102
Beans, snap:					
Regular cut . . . . .	161	162	142	157	166
French cut . . . . .	95	92	70	74	69
Wax . . . . .	7	11	NA	NA	NA
Total . . . . .	263	265	212	231	235
Broccoli . . . . .	277	299	95	89	105
Brussels sprouts . . . . .	71	61	15	22	23
Carrots . . . . .	238	263	78	80	79
Cauliflower . . . . .	128	101	52	67	46
Corn, cut . . . . .	303	310	254	267	177
Corn-on-cob . . . . .	307	269	234	212	185
Mixed vegetables . . . . .	( <sup>2</sup> )	( <sup>2</sup> )	33	44	46
Mushrooms . . . . .	9	14	NA	NA	NA
Onions . . . . .	154	167	23	23	24
Peas . . . . .	358	443	335	390	328
Peas and carrots . . . . .	( <sup>2</sup> )	( <sup>2</sup> )	11	11	11
Pumpkin and squash . . . . .	25	24	NA	31	35
Rhubarb . . . . .	5	8	NA	NA	NA
Southern greens <sup>3</sup> . . . . .	71	69	28	15	24
Spinach . . . . .	147	181	61	81	69
Okra . . . . .	46	33	51	45	43
Peas, blackeye . . . . .	37	21	15	13	6
Miscellaneous vegetables . . . . .	137	123	194	199	173
Total <sup>4</sup> . . . . .	2,313	2,387	1,479	1,952	1,722
French fried potatoes . . . . .	3,265	3,488	560	545	518
Other frozen potatoes . . . . .	584	602	85	103	101
Total frozen potatoes . . . . .	3,849	4,090	645	648	619
Grand total <sup>4</sup> . . . . .	6,559	6,890	2,438	2,599	2,341

<sup>1</sup> Preliminary. <sup>2</sup> Included in miscellaneous vegetables. <sup>3</sup> Includes collards, kale, mustards, turnips green/turnips. <sup>4</sup> May not add due to rounding.

Pack data from American Frozen Food Institute. Stocks from Cold Storage Report, ESS, USDA, Issued monthly.



Table 10—Vegetables, fresh: Average prices received by farmers, per hundredweight, United States, September 15, 1980 with comparisons

Commodity	1979		1980		
	August	September	July	August	September 1-15
	<i>Dollars</i>				
Beans, snap . . . . .	24.70	26.90	24.60	27.10	25.40
Cabbage . . . . .	5.39	5.91	8.69	8.31	9.39
Cantaloups . . . . .	10.70	11.50	12.90	12.80	13.50
Carrots . . . . .	11.40	10.30	12.40	12.80	13.50
Cauliflower . . . . .	---	---	---	---	---
Celery . . . . .	7.24	6.97	6.97	7.65	8.40
Corn, sweet . . . . .	9.21	8.88	11.40	8.89	9.00
Cucumbers . . . . .	11.70	12.00	13.00	12.10	12.40
Lettuce . . . . .	9.42	8.66	6.20	7.88	11.80
Onions . . . . .	9.76	7.93	9.32	10.50	10.40
Peppers, green . . . . .	16.40	16.40	15.60	18.40	18.40
Tomatoes . . . . .	20.90	18.10	22.00	23.00	21.00
Watermelons . . . . .	4.88	4.60	7.06	7.15	6.24

Agricultural Prices, ESS, USDA, Issued monthly.

Table 11—Fresh and Processed Vegetables: Retail price, marketing margin, and farm value per unit, sold in New York City, indicated months, 1979, and 1980

Commodity, month, and retail unit	Retail <sup>1</sup> price	Marketing margin		Farm value <sup>2 3</sup>	
		Absolute	Percentage of retail value	Absolute	Percentage of retail value
	<i>Cents</i>		<i>Percent</i>	<i>Cents</i>	<i>Percent</i>
<b>Fresh:</b>					
Carrots (Pound)					
July 1980 . . . . .	36.5	22.2	61	14.3	39
June 1980 . . . . .	32.0	21.3	67	10.7	33
July 1979 . . . . .	37.0	25.2	68	11.8	32
Celery (Pound)					
July 1980 . . . . .	34.8	27.3	78	7.5	22
June 1980 . . . . .	30.6	22.8	74	7.8	26
July 1979 . . . . .	44.3	28.3	64	16.0	36
Lettuce (Head)					
July 1980 . . . . .	64.0	52.0	81	12.0	19
June 1980 . . . . .	79.0	52.1	66	26.9	34
July 1979 . . . . .	74.0	62.6	85	11.4	15
Onions, dry yellow (pound)					
July 1980 . . . . .	40.0	31.3	78	8.7	22
June 1980 . . . . .	42.0	28.0	67	14.0	33
July 1979 . . . . .	34.0	20.2	59	13.8	41
<b>Processed:<sup>4</sup></b>					
Peas, Canned (303 can)					
Apr. 1980 . . . . .	49.0	41.8	85	7.2	15
Jan. 1980 . . . . .	48.0	40.8	85	7.2	15
Apr. 1979 . . . . .	48.0	40.4	84	7.6	16
Green Beans, Frozen, (9 oz)					
Apr. 1980 . . . . .	60.0	54.8	91	5.2	9
Jan. 1980 . . . . .	59.0	53.8	91	5.2	9
Apr. 1979 . . . . .	57.0	52.2	92	4.8	8
Tomatoes, canned (303 can)					
July 1980 . . . . .	59.0	53.9	91	5.1	9
April 1980 . . . . .	59.0	53.9	91	5.1	9
July 1979 . . . . .	55.0	50.0	91	5.0	9

<sup>1</sup> Division of Markets, State Department of Agriculture and Markets, NY. <sup>2</sup> For quantity of product equivalent to retail unit sold to consumers: Because of waste and spoilage during marketing, equivalent quantity exceeds retail unit. Fresh: F.O.B. shipping point price, processed: Equivalent packing housedoor returns. <sup>3</sup> Production areas; Carrots-California, Celery-California, Lettuce-California, Onions-Texas, Canned Peas-Minnesota and Wisconsin, Frozen Green Beans-Western States, Canned Tomatoes-Eastern States. <sup>4</sup> Priced quarterly.

Table 12—Potatoes, white: Acreage, yield per acre, and production, annual 1978, 1979, and indicated 1980

Season group	Acreage			Yield per acre		Indi- cated 1980	Production		
	Harvested		For harvest 1980	1978	1979 <sup>1</sup>		1978	1979 <sup>1</sup>	Indicated 1980
	1978	1979 <sup>1</sup>							
	1,000 acres			cwt.			1,000 cwt.		
Winter . . . . .	12.9	11.9	11.5	203	200	205	2,621	2,383	2,363
Spring . . . . .	90.0	83.8	72.8	198	255	234	17,963	21,345	17,012
Summer . . . . .	111.9	109.0	95.7	189	205	176	21,167	22,292	16,827
Fall . . . . .									
8 Eastern. . . . .	201.7	192.2	178.3	244	254	232	47,292	48,789	41,426
8 Central. . . . .	316.2	294.4	279.7	219	212	191	69,276	62,326	53,548
9 Western . . . . .	637.0	584.6	518.7	325	318	319	206,930	185,823	165,712
Total . . . . .	1,155.1	1,071.2	976.7	280	277	267	323,498	296,938	260,686
United States . . . . .	1,370.8	1,275.9	1,156.7	266	269	257	365,249	342,958	296,888

<sup>1</sup> Revised.

Crop production, ESS, USDA, Issued monthly.

Table 13—Potatoes: Prices f.o.b. shipping points, per hundredweight, U.S. No. 1 grade or better, indicated periods, 1979 and 1980

Shipping point and variety	1979			1980		
	August 11	September 8	October 13	August 16	September 6	October 11
	<i>Dollars</i>					
New Jersey Round whites . . . . .	4.25	4.25	4.64	9.00	8.90	9.12
Long Island, N.Y., Round whites . . . . .	4.50	4.04	4.58	8.86	8.54	9.76
Michigan Round whites . . . . .	3.80	3.34	3.76	7.86	7.38	7.84
Minnesota Reds . . . . .	5.35	3.03	4.63	9.00	10.13	9.24
Colorado Reds . . . . .	---	5.25	5.63	---	11.00	18.60
Washington <sup>1</sup> Norgolds . . . . .	6.95	6.00	6.75	19.70	22.50	---
Washinton Russets . . . . .	---	---	---	---	---	---

F.O.B. prices are simple averages of the range of daily for the week ended on indicated data. Compiled from Market News Service reports.

<sup>1</sup> Cwt. Basis.

Table 14—Potatoes: U.S. average price received by farmers, per hundredweight, indicated periods, 1979 and 1980

	1979			1980		
	July	August	September	July	August	September
	<i>Dollars</i>					
U.S. farm price . . . . .	3.53	3.76	3.20	6.49	7.55	6.83
Parity price . . . . .	7.05	6.99	7.07	7.50	7.60	7.66
Price as percent of parity. . . . .	50	54	46	87	99	89

Agricultural Prices, ESS, USDA, issued monthly.

Table 15—Sweetpotatoes: Acreage, yield per acre, and production annual 1978, 1979, and indicated 1980

	Acreage			Yield per acre			Production		
	Harvested		For harvest 1980	1978	1979	Indi- cated 1980	1978	1979	Indi- cated 1980
	1978	1979							
	1,000 acres			cwt.			1,000 cwt.		
Central Atlantic <sup>1</sup> . . . . .	10.1	10.0	7.9	135	130	117	1,364	1,295	921
Lower Atlantic <sup>2</sup> . . . . .	45.4	49.8	45.3	134	118	116	6,092	5,890	5,265
Central <sup>3</sup> . . . . .	56.4	55.3	51.0	97	101	85	5,453	5,573	4,346
California . . . . .	8.7	9.6	9.0	160	170	160	1,392	1,632	1,440
United States . . . . .	120.6	124.7	113.2	119	115	106	14,301	14,390	11,972

<sup>1</sup> New Jersey, Maryland, and Virginia. <sup>2</sup> North Carolina, South Carolina, and Georgia. <sup>3</sup> Tennessee, Alabama, Mississippi, Arkansas, Louisiana, and Texas.

Crop Production, ESS, USDA, issued monthly.

Table 16—Sweetpotatoes: Prices f.o.b. shipping points and wholesale price (wholesale lots) at New York and Chicago, indicated periods 1978 and 1980

Item	State	Unit	Week ended			
			1979		1980	
			Sept. 8	Oct. 6	Sept. 6	Oct. 11
F.o.b. shipping points:			<i>Dollars</i>			
Porto Rico type, uncured . . . . .	Eastern North Carollna points	U.S. no. 1 50 lb. crt.	6.00	4.92	--	7.50
Porto Rico type, uncured . . . . .	Southern Louisiana points	U.S. no. 1 50 lb. crt.	6.75	5.90	--	8.50
Porto Rico type, Garnet . . . . .	Stockton, California	40 lb. ctn.	9.40	8.20	--	10.80
			Tuesday			
			1979		1980	
			Sept. 11	Oct. 2	Sept. 9	Oct. 7
			<i>Dollars</i>			
Terminal markets						
New York						
Porto Rico, uncured . . . . .	North Carollna	50 lb. ctn	7.50	7.00	9.50	9.50
Chlcago						
Porto Rico, uncured . . . . .	Louisiana	50 lb. ctn.	8.75	8.25	12.50	11.00

F.o.b. prices are simple averages of the range of daily prices, compiled from Market News Service reports. The market prices are representative prices for Tuesday of each week and are submitted by the Market News Service representative at each market.



Table 17—U.S. average price per hundredweight received by farmers for sweetpotatoes, dry edible beans, and dry field peas, indicated periods, 1979 and 1980

Commodity	1979			1980		
	July	August	September	July	August	September
	<i>Dollars</i>					
Field crops:						
Sweetpotatoes. . . . .	16.90	10.80	7.35	13.10	10.30	8.27
Beans, dry edible . . . . .	22.20	20.80	19.50	25.60	26.30	24.50
Peas, dry field . . . . .	10.80	11.00	10.60	10.10	9.36	8.40

Agricultural Prices, ESS, USDA, Issued monthly.

Table 18—Dry edible beans: Supply and disposition<sup>1</sup>

Marketing season beginning September 1	Supplies				Utilization			
	Beginning stocks Sept.	Production	Imports <sup>2</sup>	Total	Domestic disappear- ance	Exports <sup>3</sup>	Total disappear- ance	Ending stocks Aug. 31
	<i>Million cwt.</i>							
Average								
1955-59 . . . . .	1.6	17.5	.1	19.2	14.9	3.1	18.0	1.2
1960-64 . . . . .	1.6	18.5	.1	20.2	15.7	2.7	18.6	1.6
1965 . . . . .	1.2	16.5	.1	17.8	14.2	2.4	16.6	1.2
1966 . . . . .	1.2	20.0	.1	21.3	15.3	3.8	19.1	2.2
1967 . . . . .	2.2	15.2	.1	17.5	14.4	2.0	16.4	1.1
1968 . . . . .	1.1	17.4	.1	18.6	14.4	2.7	17.1	1.5
1969 . . . . .	1.5	18.9	.1	20.5	14.5	4.3	18.8	1.7
1970 . . . . .	1.7	17.4	.1	19.2	14.2	3.3	17.5	1.7
1971 . . . . .	1.7	15.9	.1	17.7	13.8	2.8	16.6	1.1
1972 . . . . .	1.1	18.1	.2	19.4	14.0	3.9	17.9	1.5
1973 . . . . .	1.5	16.4	.7	18.6	14.0	3.3	17.3	1.3
1974 . . . . .	1.3	20.3	.1	21.7	14.5	5.1	19.6	2.1
1975 . . . . .	2.1	17.4	.3	19.8	14.2	2.7	16.9	2.9
1976 . . . . .	2.9	17.8	.2	20.9	13.9	4.0	17.9	3.0
1977 . . . . .	3.0	16.6	.2	19.8	13.7	4.5	18.2	1.6
1978 . . . . .	1.6	19.0	.2	20.8	13.8	5.6	19.4	1.5
1979 . . . . .	1.5	20.7	.2	22.4	13.9	7.2	21.1	1.3
1980 <sup>4</sup> . . . . .	1.3	24.1	.2	25.6				

<sup>1</sup>Source: ESS, Bureau of the Census. <sup>2</sup>Imports include Garbanzos and all beans for seed purposes but exclude Mung Beans.

<sup>3</sup>Exports include Garbanzos, baked beans, all beans for seed purposes and donations to welfare agencies for foreign relief.

<sup>4</sup>Preliminary.

Table 19—Beans, dry edible: Acreage, yield per acre, and production, annual 1978, 1979, and indicated 1980<sup>1</sup>

Group, States and classes	Acreage			Yield per acre			Production <sup>1</sup>		
	Harvested		For harvest 1980	1978	1979	Indicated 1980	1978	1979	Indi- cated 1980
	1978	1979							
	<i>1,000 acres</i>			<i>pounds</i>			<i>1,000 cwt.</i>		
Michigan . . . . .	540	490	560	1,150	1,400	1,300	6,210	6,860	7,280
New York . . . . .	42	40	51	1,020	1,200	1,100	428	480	587
Northwest <sup>3</sup> . . . . .	489	484	728	1,500	1,655	1,302	7,333	8,010	10,533
Southwest <sup>4</sup> . . . . .	194	200	239	900	898	940	1,746	1,795	2,248
California:									
Large lima . . . . .	29	27	33	1,579	1,926	1,818	458	520	600
Baby lima . . . . .	25	29	18	2,048	2,241	2,111	512	650	380
Other . . . . .	162	149	158	1,452	1,577	1,614	2,353	2,350	2,550
Total California . . . . .	216	205	209	5,079	5,744	5,543	3,323	3,520	3,530
United States <sup>6</sup> . . . . .	1,481	1,419	1,787	1,285	1,457	1,337	19,040	20,665	24,178

<sup>1</sup> Includes beans grown for garden seed. <sup>2</sup> Cleaned basis. <sup>3</sup> Nebraska, Montana, Idaho, Wyoming, Washington, Minnesota, and North Dakota. <sup>4</sup> Kansas, Colorado, and Utah. <sup>5</sup> Estimated discontinued beginning 1978. <sup>6</sup> May not add due to rounding.

Crop Production, ESS, USDA, issued monthly.

Table 20—Peas, dry field: Acreage, yield per acre, and production, annual 1978, 1979 and indicated 1980.

States	Acreage			Yield per acre		Indi- cated 1980	Production		
	Harvested		For harvest 1980	1978	1979		1978	1979	indi- cated 1980
	1978	1979							
	1,000 acres			Pounds			1,000 cwt.		
Idaho . . . . .	82	51	61	1,830	1,380	2,050	1,501	704	1,251
Washington . . . . .	120	85	70	1,750	1,570	2,200	2,100	1,335	1,540
United States . . . . .	202	136	131	1,783	1,499	2,131	3,601	2,039	2,791

<sup>1</sup> In principal commercial producing States. Includes peas grown for seed and cannery peas harvested dry. <sup>2</sup> Cleaned basis.

Crop Production, ESS, USDA, issued monthly.

# Estimating U.S. Potato Demand: Structure and Forecasts

by

Roger K. Conway and John F. Yanagida <sup>1</sup>

**ABSTRACT:** An econometric model is used to determine the economic structure of U.S. potato demand and to provide conditional forecasts of fresh and processed per capita consumption from 1980 to 1985. The results indicate fresh per capita consumption will hold steady while processed per capita consumption will continue to increase.

**Keywords:** Potatoes, demand, model, structure, forecasts

The most striking feature of recent U.S. potato demand has been the opposite trends fresh and processed per capita consumption have taken over the past two decades. Fresh per capita consumption declined from 83.8 pounds in 1960, to 50.5 pounds in 1979. In contrast, processed per capita consumption increased from 24.6 to 70.6 pounds during the same period. Indeed, processed per capita consumption increased rapidly enough to raise total per capita consumption (see page 14).

What has caused this change in demand for both fresh and processed potatoes? We believe the major reason is the consumer's increasing desire for convenience foods. Growth in consumption of frozen and other processed potatoes is directly linked to the expansion of fast food outlets. Also, processed potatoes are increasingly accepted as an easy to prepare entree for breakfast and lunch as well as dinner. Examples include hash browns and au gratin potatoes. The growing number of women in the labor force is an important factor leading to this change of taste.

This study analyzes the significance of demand for convenience foods in explaining potato consumption

patterns relative to other more traditional determinants, such as price and income.

An econometric model, which relates consumption to economic factors, was used to explain current potato consumption patterns and whether, given certain assumptions, these patterns will continue to 1985. An alternative time trend model was also used to provide a performance criterion against which the econometric model may be judged. Additional information from past studies, economic theory, and subjective judgement was incorporated into the econometric model through the technique of mixed estimation. A forthcoming ESS Staff Report by the authors will explain this procedure in the context of estimating potato demand.

## Model Specification

Conventional demand theory states that per capita consumption of a commodity is determined by the price of the commodity, the price(s) of substitutes and/or complements, consumer's per capita income, and taste changes. The price of potatoes and the price of any complements should vary inversely with per capita consumption, while price(s) of substitutes and income, assuming the good is normal, will have a positive relationship. Taste changes can be either positively or negatively related to consumption.

---

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The model specification for both the fresh and processed demand equations is:

$$Q_i = \text{FRESHCPI, FROZCPI, CAPY, WLF}$$

Where  $i$  = F for fresh  
or  
P for processed

$Q_i$  = per capita consumption of  
either processed or fresh  
potatoes in year  $t$

CAPY = per capita expenditures  
on non-durables less food  
in year  $t$

FROZCPI = retail price of frozen  
french fried potatoes  
in year  $t$

FRESHCPI = retail price of fresh  
potatoes in year  $t$

WLF = percentage of women in  
the labor force in year  $t$

A composite retail price index for total processed potatoes is not available. Therefore, the retail CPI for frozen french fries serves as a proxy. This proxy is a reasonable substitute since frozen potato consumption accounts for the largest share of total processed potato consumption over most of the time period studied. The average share of frozen potato consumption during the period of estimation, 1960 to 1976, was 43.8 percent of total processed consumption. The price of processed potatoes represents a substitute relationship in the fresh demand equation as does fresh potato price in the processed demand equation. At the retail level, fresh and processed potatoes are two differentiated, competitive products.

Percentage of women in the labor force represents the taste change factor. We hypothesize as more women enter the labor force, the less time they have to prepare meals for themselves and/or their families and the greater will be their preference for convenience foods like processed potatoes at the expense of unprepared foods like fresh potatoes. Therefore, this variable should have a positive coefficient in the processed demand equation and a negative coefficient in the fresh demand equation.

Both goods are hypothesized to be normal goods. A good is normal if increases in income result in increased consumption of that good. Thus, the coefficient on income should be positive in each equation.

## Estimation Results

Both trend and econometric models were estimated over the time period 1960-1976. The trend regressions are presented in table 1. The regressions confirm the decline of fresh consumption and the increase of processed consumption of potatoes over time. These regressions indicate that each year fresh per capita consumption will decline by 2.2 pounds while processed per capita consumption will increase by 3.0 pounds if the trends observed in 1960-76 continue in the future.

The demand model is shown in table 2. All the coefficients for both equations have the correct signs.<sup>2</sup>

## Projection Assumptions and Forecasts

Some assumptions are necessary for a model to forecast successfully. First, the model must reflect the economic behavior of consumers. The earlier discussion of performance statistics partially confirms this assumption. Additionally, the behavior captured by the model must continue in the future. This assumption weakens the longer the forecasting time horizon. Finally, a number of exogenous factors need to be given future values for estimation. This is done either by assuming recent past trends continue in the future or by using projections from other analysts. Thus, a cautionary note is warranted in interpreting model projections. These projections are ideally viewed as another piece of evidence in an analyst's information set based on explicit assumptions. Assumptions for the exogenous values are given in table 4.

Our model's forecasts are shown in table 5. Figures 1 and 2 compare forecasts from the trend model with the econometric model from 1980 to 1985. The important findings are fresh per capita consumption will hold steady at around 50 pounds through 1985 while processed per capita consumption will continue its rise from 85 pounds in 1980 to

<sup>2</sup> A comparison of R-squares and standard errors of the regression between the trend and demand models indicate the demand model is superior in explaining past variation. Another method for comparing both models is to perform a robustness test. This test compares forecasts from both models beyond the sample period with actual values. Table 3 shows the results for 1977 through 1979. The lower absolute errors indicate the demand model performs better than the trend model and will be a better forecaster of future periods.

Table 1.--Results from Trend Model<sup>1</sup>

Dependent Variable <sup>2</sup>	Intercept	Time	R <sup>2</sup> <sup>4</sup>	D.W. <sup>5</sup>	SEE <sup>6</sup>
FRESHCON	217.8480 (20.84) <sup>2</sup>	-2.2439 (-14.63)	0.93	2.14	3.10
PROCCON	-153.2716 (-16.02)	2.9674 (21.14)	0.97	0.58	2.84

<sup>1</sup> Method of estimation was ordinary least squares.

<sup>2</sup> Variable names and descriptions:

FRESHCON	Per capita consumption of fresh potatoes (lbs.)
PROCCON	Per capita consumption of processed potatoes (lbs.)
Time	Year

<sup>3</sup> Numbers in parenthesis are t-statistics.

<sup>4</sup> R<sup>2</sup> = Multiple correlation coefficient.

<sup>5</sup> D.W. = Durbin Watson statistic

<sup>6</sup> SEE = Standard Error of the regression.

Table 2.--Results from Demand Model<sup>1</sup>

Dependent <sup>2</sup> variable	INTERCEPT	FRESHCPI	FROZCPI	CAPY	WLF	$\theta_p^4$	$\chi_3^{25}$	R <sup>26</sup>	SEE <sup>7</sup>
FRESHCON	236.25 (15.593) <sup>3</sup>	-8.7517 (-3.665)	14.272 (4.372)	3.0686 (2.813)	-5.1791 (-10.647)	.197	1.559	.97	2.27
PROCCON	-130.81 (-10.612)	1.1224 (.681)	-23.666 (-9.949)	6.006 (5.55)	5.3602 (13.569)	.193	4.948	.99	2.63

<sup>1</sup> Method of estimation was mixed estimation.<sup>2</sup> Variable names and descriptions:

FRESHCON = Per capita consumption of fresh potatoes (lbs.)  
 PROCCON = Per capita consumption of processed potatoes (lbs.)  
 FRESHCPI = CPI fresh potatoes (1967 = 1.0)  
 FROZCPI = CPI frozen french fried potatoes (1967 = 1.0)  
 CAPY = Per capita consumer expenditures on nondurable goods and services (1,000 \$)  
 WLF = Percentage of women in the labor force (%)

<sup>3</sup> Numbers in parenthesis are asymptotic t values<sup>4</sup>  $\theta_p$  = The share of information used to form estimates attributable to the prior information.

<sup>5</sup>  $\chi_3^2$  = Chi-square test of comparability between sample and prior information. The critical value of  $\chi_3^2$  at the .99 level of significance is 7.879.

<sup>6</sup> R<sup>2</sup> = Multiple correlation coefficient.<sup>7</sup> SEE = Standard error of the regression.



Table 3.--Robustness Test for 1977-1979

	:	Actual	Time Trend Model		:	Demand Model	
			Predicted	Absolute % error		Predicted	Absolute % error
	:	<u>Pounds</u>		<u>Percent</u>	:	<u>Pounds</u>	<u>Percent</u>
<u>FRESHCON</u>	:						
1977	:	54.3	45.1	16.94	:	50.9	6.28
1978	:	50.3	42.8	14.91	:	49.4	1.89
1979	:	48.5	36.63	24.47	:	50.72	4.58
	:						
<u>PROCCON</u>	:						
1977	:	69.3	75.2	8.51	:	72.0	3.95
1978	:	71.3	78.2	9.68	:	76.7	7.60
1979	:	75.6	81.15	7.34	:	81.05	7.21
	:						

Table 4.--Assumptions Used for Forecasting Per Capita Consumption of Potatoes

	1977	1978	1979	1980	1981	1982	1983	1984	1985
FRESHCPI <sup>A</sup>	2.039	2.118	2.033	2.510	2.510	2.640	2.780	2.930	3.080
CAPY <sup>B</sup>	4.7538	5.265	5.8861	6.616	7.198	7.926	8.781	9.651	10.564
FROZCPI <sup>C</sup>	1.847	1.935	2.027	2.184	2.310	2.442	2.583	2.732	2.887
WLF <sup>D</sup>	40.250	40.960	41.460	42.080	47.610	43.140	43.680	44.220	44.780

<sup>A</sup> 1977-1979 data found in Monthly Labor Review, U.S. Department of Labor, Bureau of Labor Statistics. Data from 1978-1980 was assumed to have growth rate of 6.19 percent and 5.9 percent after 1980.

<sup>B</sup> Estimates for CAPY were found in Monthly Labor Review, U.S. Department of Labor, Bureau of Labor Statistics. Data from 1980-1985 were taken from a private consulting firms' forecast estimates.

<sup>C</sup> Series discontinued after 1976 by BLS. Data assumed to grow at 4.77 percent per year from 1976 to 1980 and 5.74 percent thereafter.

<sup>D</sup> 1977-1979 data found in Monthly Labor Review, U.S. Department of Labor, Bureau of Labor Statistics. For 1979-1980 WLF was assumed to grow at a rate of 1.50 percent per year, and 1.25 for the period 1980-1985.

Table 5.--Demand Model Forecasts

	FRESHCON	PROCCON	TOTALCON
	<u>Pounds per capita</u>		
1980	51.11	85.43	136.54
1981	48.65	88.97	137.62
1982	48.89	93.20	142.09
1983	49.51	98.05	147.56
1984	50.19	102.82	153.01
1985	50.99	107.74	158.73



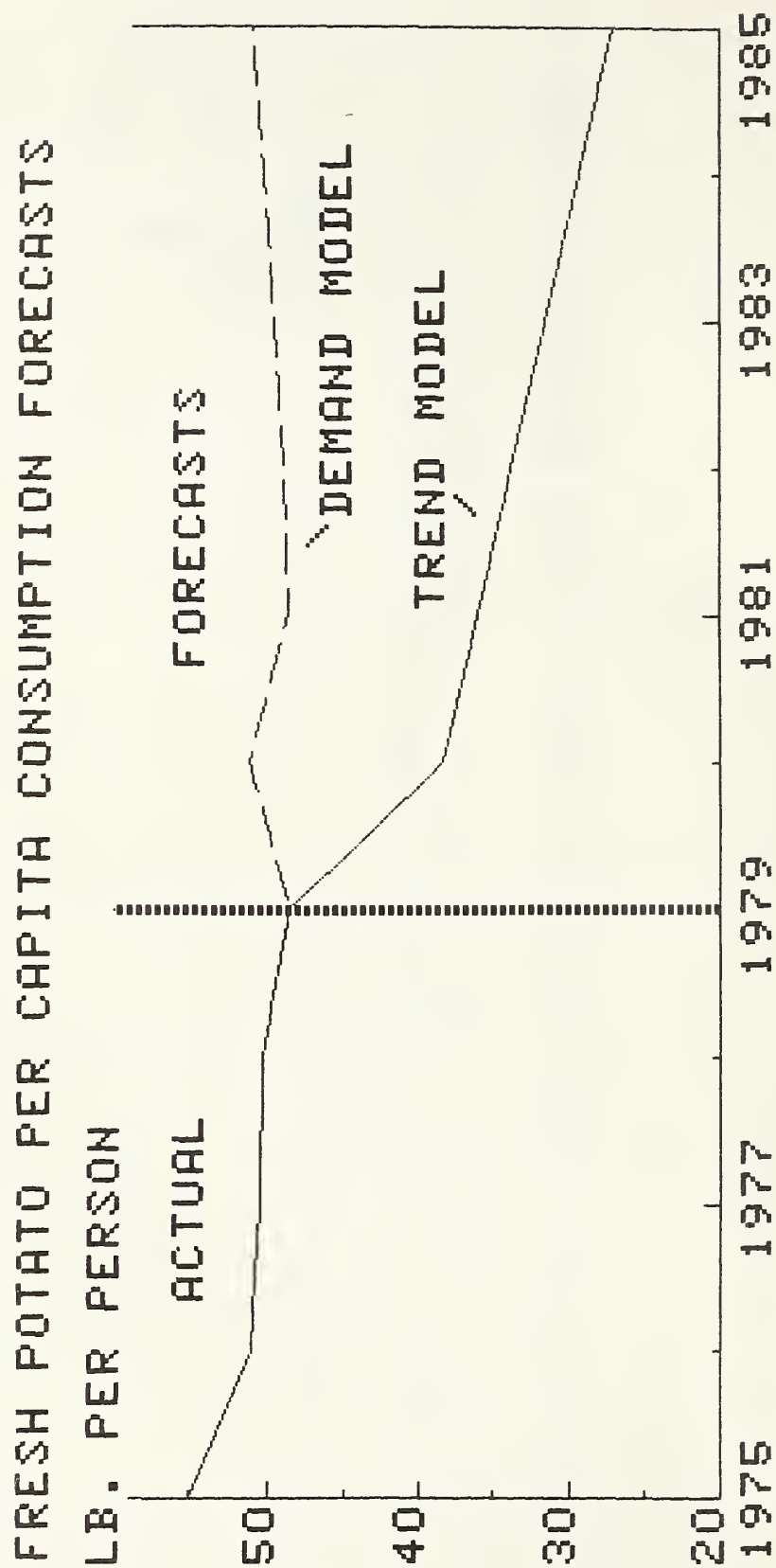


Figure 1

PROCESSED POTATO PER CAPITA CONSUMPTION FORECASTS  
LB. PER PERSON

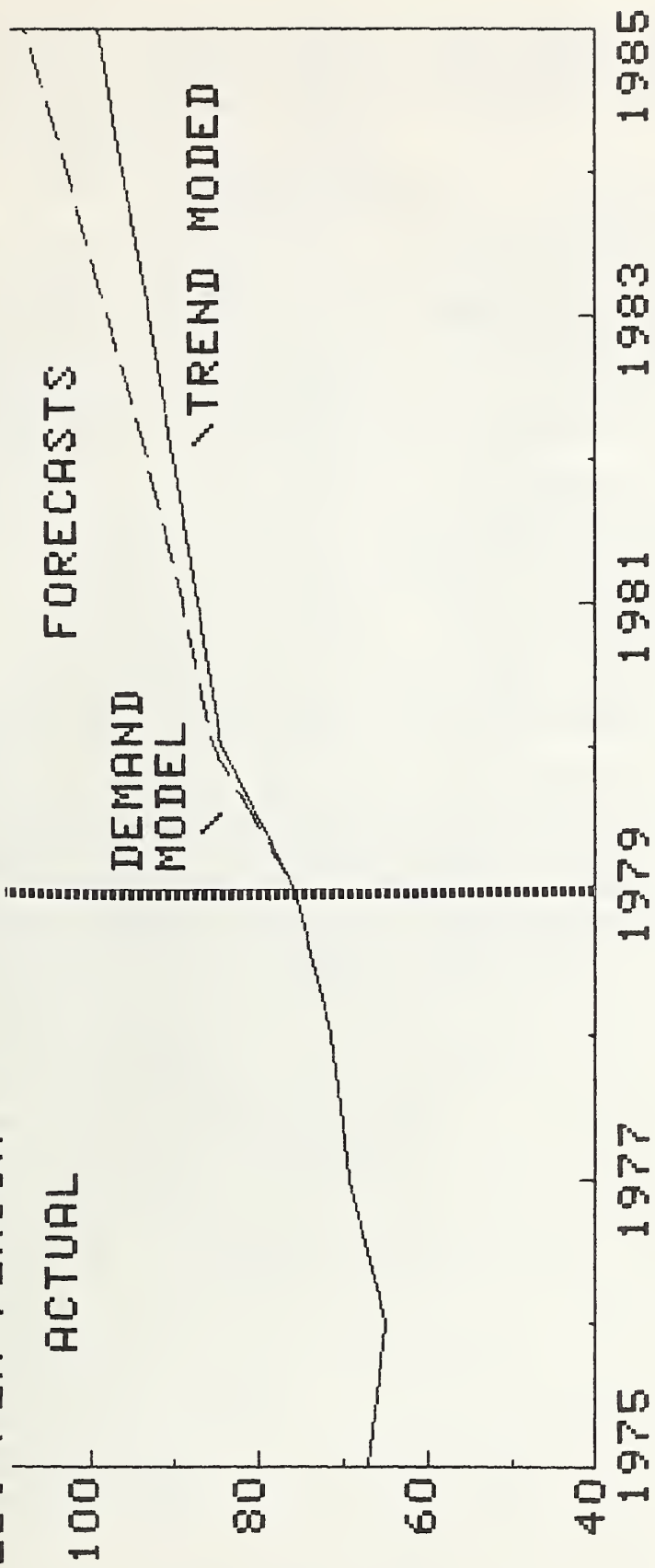


Figure 2

about 108 pounds in 1985. In terms of total consumption, fresh will increase from 11.4 billion pounds in 1980 to 11.9 billion in 1985 while processed will increase from 19 to 25.1 billion pounds during the same period.

### **Long-Run Prospects**

We have used our economic model to forecast potato demand from 1980 to 1985. However, longer run forecasts with the model are impractical. The reason is the relationships estimated by the model will likely change and new relationships, not captured by the model, may become important. However, we can use the model as a reference point to speculate on some of the longer run influences on potato demand and the potato industry.

The economic model shows the demand for convenience foods plays an important role in explaining current U.S. potato consumption patterns. This taste factor will continue to play a role in determining potato demand through 1985 but its long run influence is uncertain. It is reasonable to assume the percentage of women in the labor force will stabilize before the end of the century. This stability will moderate the demand for convenience foods and cause per capita consumption trends for fresh and processed potatoes to level off.

Another long run factor is the principle of satiation. It is difficult to believe consumers will increase their demand for potato products much above forecasted 1985 levels. Consumers will eat only so many potato products! The mix of potato products may change but the total per capita consumption of potatoes in the U.S. probably will reach its peak sometime in the 1980's.

There are reasons to believe the mix of potato products for consumption will change. The current interest in nutrition and the exorciation of "junk" foods by various people could alter food consumption patterns. A new trend toward "natural foods" like fresh potatoes is possible because Americans are becoming aware of the high fat and carbohydrate content of their diet.

Demographics will reinforce the leveling off of total per capita potato consumption and the movement to "natural foods". The children of the baby boom in the late 1940's and early 1950's are growing older and increasing the age composition of the population. Total food intake per person probably will be reduced in the future since older individuals generally eat less. "Natural foods" probably will increase in popularity because older individuals will be inclined to switch to these foods for their health.

The prospect of a stable pattern of total U.S. per capita potato consumption does not necessarily mean the U.S. potato industry cannot expand. The relationship found in the U.S. between processed potato consumption and the demand for convenience foods could be translated into overseas markets. Indications are this is already occurring in developed countries. Demand for dehydrated and frozen potatoes is being generated by the rapid acceptance of U.S. style snack foods and the associated institutional marketing outlets, particularly in Japan and Europe. Developing countries also may prove to be excellent export markets for the U.S. potato industry to develop. Many of these countries have rising real incomes, an increasing desire for leisure time, and are adopting current western culture which encourages women to compete with men in the labor market.

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